Network Society and the Notorious Self

Deep Ecology, Dissensual Democracy and the Digital Commons

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For a Ferger, watching birds and spinning thread

And to the author of Always Seeking the Edge

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Introduction

My study takes as its point of departure two elements in the work of the late Arne Næss. The first is his conviction that "there is nothing in 'ecosophy'" that is "established," that his writings were only "on the way" (Næss 2005: 316). This attitude of Næss' will inform my approach to deep ecology, which sees it as still young, still plastic and open to fruitful contact with other bodies of thought. The second point is Næss' "optimism for the 22nd century" (*Ibid.*; 611). This is the view that just as more ecologically appropriate ways of living will require consideration of longer time frames, the movement towards establishing those ways of living will necessarily operate in a longer time frame than is used for most goals of social transformation. Such movement will need to be maintained throughout a 21st century shaped by the inertia of contemporary circumstances and the consequences of ecological overshoot. Næss conjured images of more ecologically harmonious societies of the early 22nd century, while noting that "the societies developing in the twenty-second century, at the earliest I suspect, will not all look like the ideal green societies envisioned since the 1960s. Many will have traits more in common with what we have today" (*Ibid.*: 614-615).

In the following pages I would like to interrogate, in an admittedly very limited way, the question of what traits found in today's societies will best be transplanted to the conjectured greener societies of the future, and which traits will flourish most and best help those societies flourish. Searching present circumstances for elements of our 22nd century ecological societies is not only a project of long-term planning, but also a project of constructing an image of the future in the immediate present. This, I believe, is in congruence with Arne Næss' conviction "that we have a mission, however modest, in shaping a better future that is *not remote*" (*Ibid.*: 616, emphasis in the original).

To simplify an investigation into the present moment, this study will borrow Manuel Castells' description of a global Network Society. This refers, in brief, to a particular regime of economic and political arrangements, arising in the 1970's, initiated by changes in the organization and techniques of capitalist production and accumulation, made possible by new developments in electronic information technology (Castells 2010). This regime is in turn associated with a range of social phenomena often grouped under the label 'postmodernity.'

While postmodernity may be a contestable and somewhat arbitrary periodization, the relevant notion here is that politico-economic arrangements, always and increasingly influenced (although never strictly determined) by technology, now especially information technology, induce certain social conditions, and, as Castells and Zygmunt Bauman argue, new selves and self-perceptions. It is this juncture, between technology and the self, which will be taken as most potentially productive for the purposes of this exploration. This focus follows also from *Transpersonal Ecology* (1990), in which Warwick Fox convincingly argues that what distinguishes Næss' ecosophy from other positions in environmental ethics, and provides much of its appeal, is its conception of the self, and its norm of Self-realization, basically understood as "the realization of as expansive a sense of self as possible" (Fox 1990: 106). This expansive self is the Ecological Self.

For self-concepts and subject formation in the present moment to be useful for reaching an imagined 22nd century ecological society, there should not only be a certain compatibility between contemporary selves and a future society, but also some path forward for subjects to take. The scale and scope of changes to economic and social institutions required to make them more ecologically appropriate clearly requires political action all along the way. It is necessary, then, not only to look for frames of self-conception compatible with the ecological Self, but political theories that address self-concepts and subject

formation. For this, I will draw on sources such as Robyn Eckersley's *The Green State* (2004), Chantal Mouffe's *The Return of the Political* (1993) and Jacques Rancière's *Dissensus* (2010).

I will take contemporary social and economic arrangements and their attendant conceptions of self as a necessary starting point for investigation. In doing so I will also ask whether global technological and economic networks contain subsidiary networks which foster, or potentially foster, self-concepts and social relations more like those of our future ecological societies. In order to achieve a practicable focus, I will mostly discuss file-sharing networks: social arrangements that take advantage of information technology networks to freely exchange information and aesthetic objects: music, books, images and software. This is partly to avoid offering too many definite conclusions about the larger "digital commons," or information technology networks more generally, about which many grand statements have lately been made, and which are notorious for their rapid rates of change, with an accompanying quick obsolescence of much analysis regarding them. However, I will forward the argument that file-sharing networks are paradigmatic of the potentials of the digital commons and the network society. File-sharing networks will function here as a stand-in for a larger phenomenon, but also as an exemplary case.

Here, my project is inspired by Næss' ecosophy in another sense. It follows his foundational concerns with immediate experience and intuited first principles. The particular combination of topics addressed in the following chapters, and my search for an approach capable of integrating them, is in part an attempt to answer the question of whether and how an ecosophy and an ecological movement that draws on the importance of immediate experience can thrive in a context where experience is heavily mediated by technology. The combination follows from an intuitive sense that connections between ecology

and file-sharing networks exist on more than a superficial level, based on my own lived experience.

Since the invention of the telegraph, new electronic information and communications technologies have prompted predictions of social liberation, political empowerment and cultural flourishing, and opposed visions of cultural degradation, social malaise and political disintegration. With each new development, optimists and skeptics have claimed a few points each for their side, while the uses of the technology have in the meantime evolved in ways that very few anticipated. While today the breeziest technological optimists tend to treat technological networks and the digital commons as having clear, predetermined political consequences, this oversimplified view ignores how technology can have politicizing and depoliticizing effects, and be used toward a variety of opposing political goals. Still, a figure associated with techno-optimism, such as Clay Shirky (2011), and a sharp critic such as Evgeny Morozov (2011) can both broadly agree that the most significant potentials of network technology are in its longer-term effects on cultural change and the development of discourse in the public sphere, and less in the direct use of communications technology in organizing protest movements and other forms of political action, or their suppression by state actors. In Castells' (2009b: 427) terms, networks do more than organize activity and transmit information. They are the "actual producers, and distributors, of cultural codes." The ultimate effect of network technology on the prospects for democracy (and, further, ecological democracy) around the globe is far from certain and far beyond the scope of this project. My goal is instead to discuss file-sharing, a specific implementation of network technology falling within the digital commons, as a project with certain political characteristics, and as a type of site for political mobilization. Moreover, I wish to use file-sharing as a site from which to explore how ecological concepts may be meaningfully applied to human culture.

Since the network technologies are still primarily, although certainly not exclusively, phenomena of high-income (‘developed, ‘post-industrial’, ‘Northern’ or ‘Western’) societies, it must be asked whether cultural and political developments that arise in and around them are applicable or relevant to lower-income societies, or if the attempt to apply them is a form of universalizing cosmopolitanism from on-high, either oppressive or simply irrelevant. On the other hand, deep ecology, along with many other environmentalist or ecological positions, is often seen as being irreparably based in domestic and international situations of economic privilege. Writing from a decidedly Western perspective, in a high-income country, I hesitate to claim to definitively establish or identify attributes of digital free exchange or deep ecology that can or should be spread throughout the world. Deep ecology and the digital commons can both be interrogated as to the extent to which they promise to preserve, enable and encourage substantial diversity instead of homogenization. However, there are some avenues that can be explored to make a very precursory evaluation of their liberatory cosmopolitan potentials. Informational capitalism arose in tandem with the globalization of production processes. If we are to analyze the digital commons as one segment of the spectrum of postmodern culture, we cannot ignore that this culture has a globalized material basis. To take seriously the causal link between economic and cultural change, we must consider the possibility of globally relevant cultural characteristics arising in a global economic system. While the geographical distribution of production and capital accumulation that accompanied this globalization has been highly variable and unequal in effect, access to the technology of the digital commons, led by mobile phones, has continued to spread throughout most of the lower-income regions of the world. The questions pertaining to the institution of intellectual property raised by the digital commons, meanwhile, have significant implications for lower-income nations in the realms of agriculture, medicine, industrial policy, and trade.

Regardless of how universal or positively cosmopolitan the culture and politics of either deep ecology or the digital commons may be, it is the system of economic production in the higher-GDP states which threatens to create ecological catastrophes and it is this system of economic production that the 'developing' states are, broadly, emulating or attempting to emulate. Perhaps new economic regimes, social relations, political institutions and cultural practices will arise in high-GDP, Western nations, and prove themselves as viable alternatives for emulation by developing states. Perhaps lower-income regions will develop their own distinct solutions, or perhaps a new cosmopolitanism will be seen simultaneously developing around the world, matching the global nature of economic and technological networks. In any of these scenarios, it is the current high-income model that must change. The continual return of xenophobic political currents and the frequent scaling back of international aid at the first sign of stalled economic growth strongly suggest that the political systems in most high-GDP countries, and the ideas that underpin them, are an inadequate basis for the moves towards global justice that would necessarily be a part of the transition to an ecologically sustainable human civilization. The notion of global justice, as with the notion of sustainability, is too far from the ideas that inform both daily experience and political structures to take precedence over other prevailing concerns. While actions taken outside higher-GDP countries may well prove to be decisively important in transitions to both a more just and a more ecologically sustainable global system, predictions as to the role of the lower-GDP world in no way reduce the ethical imperative within the high-GDP world to address the issue of how changes there can orient those countries in such a direction. Thus, I find it worthwhile to explore both deep ecology and the digital commons, even if they currently remain predominantly (but certainly not exclusively) Western phenomena.

Whether or not a universal, heterogeneous and non-hegemonic cosmopolitanism is possible (if this is even a question that can be definitively

answered) is, again, far beyond the scope of the project. It should be stated directly that the political theorization I draw upon in this project is by Western writers working from within European and North American political traditions. There is, perhaps, one way in which the concepts I propose are directly relevant to the question of the global applicability of political solutions - to the extent that ecological notions of the self help bridge the gap between cultures which place differing emphasis on notions of interdependence and independence.[1] The networked image of the ecological self that I will propose does, I believe, allow for the coexistence and reconciliation of those two principles. In this aspect, at least, there may be some potential for cross-cultural compatibility. One of the central ideas animating my project is the creation of political coalitions through what Laclau and Mouffe (1985) term "chains of equivalence". Whether the equivalences I propose here apply across all cultural and national contexts, the prospect of extending those chains in the future remains open.

My attempt to illuminate traces of 22nd century ecological societies in today's network society, while perhaps not entirely unique, will go on to serve the other purpose mentioned in the first paragraph of this introduction. That is: to treat deep ecology, as a philosophy, as open to progressive reconsideration and modification. In the process of looking for the ecological Self in networks, I hope to productively reconceptualize the ecological Self by way of networks. This is not only to suggest avenues for Self-realization in the network society of the present historical moment, but to strengthen deep ecology itself. By explicating and expanding its metaphors and images, I hope to bring it into greater accord with other schools of thought oriented towards social transformation. Even within the spectrum of 'green' or ecological thought, there are many criticisms and dismissals of deep ecology which appear to arise from misunderstandings more than fundamental and substantive

[1] See e.g. Markus and Kitayama (1991), Triandis et al. (1988) and Waterman (1981)

disagreements, at times drawing conclusions about it which are directly contradicted by Næss' own positions. With further conversation, and new terminology, I hope to ameliorate such disputes, while adapting deep ecology to the legitimate criticisms which ecological thinkers from other traditions have for it. Similarly, deep ecology, as a term defined first by an ecosophy, but further by an inducement to political action, can glean important lessons from compatible political theories, and make its own contributions to a broader political discourse in turn.

To this end, I will ultimately propose a view of the ecological Self which takes the network as its foundational model and metaphor, an ecological Self as network Self. I hope that this revised image will effectively contain and connect those modifications and clarifications of deep ecology, and hone it as a tool in "shaping a better future that is not remote", by drawing the ecological Self out of the network society, and offering some ways to draw out the vectors of its constituent networks in ways that better match the ecological whole. The network image, and the project of bringing political theory to deep ecology, is also an attempt to conceptualize the relationship between movements for environmental justice and the prevention of severe disturbances to ecosystems and the ecosphere, and other struggles for freedom and equality, in a way that neither places ecological concerns above all others, nor considers it to be just another demand among others.

The movement towards greener future societies will, certainly, require not just the existence of ideas and institutions which may be integrated into those societies, but forms of education which explain and promote those ideas while clarifying their connections to our contemporary problems and their potential solutions. A meaningfully thorough review of the literature on pedagogical method, and particularly ecological education, was beyond my purview here, and I do not propose any specific pedagogical projects. That aspect of transitioning from conceptual to concrete remains an area open for further

study. One very preliminary point that does have some relevance to the main concerns of my project is Næss' contention that seemingly unlikely deep changes in education will be made more probable if "more teachers boldly introduce changes based on an epistemological pluralism" (Næss 2005: 503). This is of a piece with the charting of the value of pluralism in political, aesthetic and political realms made in the chapters ahead.

Because of the broad range of elements which I attempt to synthesize or bring into contact, this project is necessarily something of a preliminary sketch. But it is one which attempts to take seriously the idea that in an epoch defined by the joint emergence of ecology as an approach to the world and globalized ecological crisis as both reality and possibility, everything must be newly seen in an ecological light.

In the first chapter, I introduce the elements of deep ecology and Næss' ecosophy which I will be employing. In the second, I provide an overview of the economic structure and cultural effects of the network society, and introduce the relevant political theories. The third chapter will concern the digital commons, file-sharing, as well as the history of copyright and the notion of intellectual property. In chapter four, I introduce the concept of the Anthropocene and discuss its implications for global society. I then lay out the network model of the ecological Self. In chapter five, I treat the implications of the previous chapters for competing notions of community, cosmopolitanism, and the commons. Finally, I return to the project of constructing greener societies for the 22nd century.

No particular 'theory' informed the process or 'methodology' of the project as a whole. It is, simply, a certain path made through a certain field of texts, in the hope that the trail so taken would prove to be at very least unique, and perhaps to some extent insightful.

1. Deep Ecology and the Society of Selves

In this chapter I aim to provide a brief overview of deep ecology, and to identify the aspects of deep ecology and Arne Næss' ecosophy most useful for the project at hand. Næss' ecophilosophical writings are numerous and wide-ranging, and Næss was, of course, only one contributor to the field of deep ecology. While it is tempting to enter into an extended exploration of its richness, I limit myself here to a condensed explanation of those aspects of the ecosophical framework which are relevant for discussing the digital commons, the network society and political democracy. First, a note on the terms 'deep ecology', 'ecophilosophy' and 'ecosophy' is in order. As described by Næss, "The study of ecology indicates an approach, a methodology which can be suggested by the simple maxim 'all things hang together'." Ecophilosophy is "the study of these problems common to ecology and philosophy" and ecosophy is "a view of the world which guides one's own decisions (...) when applied to questions involving ourselves and nature" (Næss 1989: 36). Deep ecology is a constellation of ideas in which activism follows from such questions.

While Næss repeatedly emphasizes that the "eight-point deep ecology platform" should be taken as a necessarily incomplete statement, arising in the context of an ecological movement in certain parts of the world at a certain time (and thus meant more to point out substantive differences within that movement, rather than propose universally applicable principles) it can still be useful in briefly communicating the core ideas of deep ecology. Those points, as formulated with George Sessions in 1985, are as follows.

> 1. The well-being and flourishing of human and non-human life on Earth have value in themselves (synonyms: intrinsic value, inherent worth). These values are independent of the usefulness of the non-human world for human purposes.

> 2. Richness and diversity of life forms contribute to the realization of these values and are also values in themselves.
>
> 3. Humans have no right to reduce this richness and diversity except to satisfy vital needs.
>
> 4. The flourishing of human life and cultures is compatible with a substantially smaller human population. The flourishing of non-human life requires a smaller human population.
>
> 5. Present human interference with the non-human world is excessive, and the situation is rapidly worsening.
>
> 6. Policies must therefore be changed. These policies affect basic economic, technological, and ideological structures. The resulting state of affairs will be deeply different from the present.
>
> 7. The ideological change will be mainly that of appreciating life quality (dwelling in situations of inherent value) rather than adhering to an increasingly higher standard of living. There will be a profound awareness of the difference between bigness and greatness.
>
> 8. Those who subscribe to the foregoing points have an obligation directly or indirectly to try to implement the necessary changes (Næss 1989: 29).

For the purposes of exploring commonalities with other political philosophies and possible ecological approaches to phenomena of the network society and digital commons, I propose that points 2, 3, and 7 prove most relevant – that is, the principles of intrinsic value, diversity, and life quality judged as consisting in "situations of inherent value."

I will list, in no particular order, some other principles of deep ecology, as articulated by Næss, which I plan to use in the following chapters. (For the purposes of this section, I will simply use the description "deep ecology" to mean "Næss' deep ecology" or "Næss' ecosophy.") Deep ecology posits that humans and non-humans both have a "right to live" that "is one and the same for all individuals" (Næss 2005: 67)[2] but that interests may be prioritized in

[2] Citations from Næss 2005 refer to the tenth volume, "Deep Ecology of Wisdom" of the anthology *The Selected Works of Arne Næss*, edited by Harold Glasser and Alan Drengson.

concrete decision-making based on vitalness (of the interest) and nearness (of beings to those prioritizing).The ecosophical insistence on the equal right to flourishing can be seen as an extension to the non-human world of Walzer's ethics of "reiterative universalism." This is the universal right to the "rights of reiteration, that is, the right to act autonomously and the right to form attachments in accordance with a particular understanding of the good life."

> Immorality is commonly expressed in a refusal to recognize in others the moral agency and the creative powers that we claim for ourselves. And immorality passes into evil when the refusal is willful and violent, turning the others, against their will, into beings "less than human" (or, less human than we are) (Walzer 1990: 535).

Just as deep ecology allows for vitalness and nearness, under reiterative universalism

> I have a special concern for my own children, my friends, my comrades, and my fellow citizens. And so do you. What reiterative universalism requires is that we recognize the legitimacy of these repeated acts of moral specialization. I make some people special, but that only means that they are special for me; and I am capable of acknowledging and ought to acknowledge that other people are special for you (*Ibid.*: 531).

These ideas will be important in formulating a view of democracy which can apply to humans and non-humans both. It will also have implications for viewing deep ecology in terms of networks. The network image will in turn be useful in explicating the meaning of deep ecology's embrace of "the whole planet (...) [as] the basic unit " (Næss 2005: 18).

Deep ecology emphasizes the importance of consistently articulating basic goals in a society which is in a storm of constant communication. Deep ecology generally calls for decentralization, simplicity, community, "appropriate technology" (Næss 2005: 14, Næss 1989: 31), and the absence of hierarchy and patriarchy. Deep ecology acknowledges that many of the steps towards greener societies do not need to have direct reference to the non-human environment.

Næss argues that "acting from inclination is superior to acting from duty" (Næss 2005: 214), that 'beautiful' acts, in the Kantian sense, are preferable to 'moral acts.' This is not because he believes the beautiful to necessarily be superior to, or separate from, the moral, but because he posits it is a practically more effective path to ethical behavior – when "inclination occurs… the moral act glides into a beautiful act." (*Ibid*.: 125). Næss does not dismiss the need for ethics, but rather questions the sufficiency of strictly ethical discourse.

> We certainly need to hear about our ethical shortcomings from time to time (…) but, when people feel they unselfishly give up, even sacrifice, their interest in order to show love for Nature, this is probably in the long run a treacherous basis for conservation (Fox 1990: 218).

Since acts from inclination follow from a certain view of being and certain forms of identification, this is an outlook in which ontology precedes ethics. It will be an important element in exploring how the integration of notions of "the political" and "the aesthetic" allow for novel approaches to questions of value.

As regards political action, in deep ecology

> questions are of the form "What would be a greener line in politics at the moment within issue x and how could it be realized?" rather than of the form "What would be the deep green line of politics within issue x?" Green is dynamic and comparative, never absolute or idealistic (Næss 2005: 217).

This puts deep ecology in line with the political theorists who have inspired this thesis and who treat democracy not as a static set of institutions, but as a dynamic, ongoing, unfinished (likely unfinishable), still young, historically revolutionary process, which can be continually deepened and made more just in a great variety of directions (e.g. Ranciere 2010, Mouffe 1993 and Eckersley 2004.).

One of the maxims of deep ecology is to "increase the sensitivity to and appreciation of what there is enough of for all," and thereby "fight against the

confusion of real value with market price" and "maximize our ability to derive deep satisfaction from the goods of which there still are, or could be, enough" (Næss 2005: 202). This will be an important principle when considering the digital commons' relationship to contemporary modes of economic activity and commodity consumption, and its implications for, and role in, more ecological societies.

1.1 Transpersonal ecology

The final, and perhaps most central, concept of deep ecology I will use in the chapters ahead is its particular conception of the self, which Warwick Fox identifies as uniquely distinguishing deep ecology from other tendencies in environmentalism or ecological thought. "Naess's (…) norm of 'Self-realization!' refers to the this-worldly realization of as expansive a sense of self as possible in a world in which selves and things-in-the-world are conceived as processes" (Fox 1990: 113-114). The 'Self' of Self-realization is the ecological self. "The ecological self of a person is that with which a person identifies" (Næss 2005: 15) or "a person's 'process of identification'" (Næss 2005: 517). Since this ecological Self is expansive, its realization depends on the self-realization of other living beings – the realization of the interests of those beings which arise from their characteristics as a particular type of being (e.g. as belonging to a species) and as an individual. Thus, deep ecology is a *transpersonal* ecology in the sense that it rests on abandoning an atomistic sense of self. This implies a reconsideration of the traditional liberal subject. One way to conceptualize an alternative to an atomistic self is the *nodal* self, which, I will argue, has the advantage that the conditions of the network society have already initiated a transition towards such a nodal view.

The norm of Self-realization depends on the hypothesis that "human nature is such that, with sufficient comprehensive (allsided) maturity, we cannot help but 'identify' our self with all living beings" (Næss 2005: 515). Such an insistence on an expansive human nature – *given the right conditions* - is key

to political projects toward greener societies, even when not put in terms of Self-realization. In the context of transpersonal ecology, the ideal of Self-realization is positioned against the underestimation of self as coterminous with narrow ego. Green political action is positioned against the supposedly unchangeable realities of market dynamics, bureaucratic institutional self-interest, or international state competition. It is positioned against the under-estimation of the liberal subject as dependent on a Lockean notion of property, and an underestimation of democracy as limited to the mechanics of contemporary representative government. In all of these cases, the restrictions placed on possible action become naturalized. What can only be contingent is portrayed as the direct outcome of an essence, as inevitable. Such a process of naturalization can be seen, in a description of the turbulent transition between political, economic and social regimes in "formerly Communist Eastern European countries" as a "drama" in which "human nature, which had previously been suppressed, manifested itself as raw violence in the struggle over the private acquisition of collective assets" (Groys 2008: 166). While patterns of behavior in one regime, must by definition be expressions of human nature just as much as patterns of behavior in another regime, the expression of "raw violence" – in, tellingly, a chaotic transitional state that, while it might correspond to Hobbes' 'state of nature', does not correspond to the forms of organization prevalent for most of the human species' history - becomes naturalized as the 'Human nature' which had been suppressed.

The identification of current patterns of behavior as the product of a definitely bounded and unchanging human nature serves to justify the status quo and limit the range of possibilities for action. The dictates of the narrow ego are cast as the unavoidable result of 'human nature'. In Realist theories of international relations, for example, the relationships between states are described as taking place in an anarchic, Hobbesian 'state of nature'. Behavior that does not follow rules of narrow self-interest is, of course, just as 'natural' as that which does. Such statements regarding human nature tend to be

projections based on the historically contingent, socially determined characteristics of the time and place in which they are made. Evidence from non-agricultural societies suggests that the Hobbesian view of the state of nature does not accurately depict human conditions before the rise of states.[3] We need not follow the most optimistic strands of Enlightenment thinking in believing human potentials to be absolute limitless; biological existence must certainly impose some ultimate restrictions. But the variability of behavior through different times and places is such that the most definite characterization of human 'nature' that we can make is one of adaptability, flexibility, and changeability. I do not mean to portray the human being as a blank slate upon which the dictates of any political program can be directly written. One cannot decree that certain patterns of behavior will accompany the imposition of new conditions. However, a project in which changes in conditions and expressions of human behavior proceed in tandem cannot be limited by the assumption that present behavior is the direct expression of a clearly delineated human nature. If civilization is the sign of human uniqueness on Earth, surely adaptability is its cause. To reject the depiction of present conditions as inevitable and natural is not to dismiss entirely the descriptive and predictive power possessed by paradigms based on such narrow conceptions. We may accept, for example, that Realist theories of international relations accurately describe the behavior of Westphalian states much of the time, without accepting that this will indefinitely be the model global actors follow. We may accept, again, that much human behavior fits the mold of the narrow ego without accepting that this is the natural limit of the human subject. Responsible practical action must take into consideration the present reality of such limitations, as well as their likely persistence for some time.

[3] See e.g. Sahlins (2006), Sahlins (2011), Tomasello and Vaish (2013), Roughgarden (2009) and Warneken and Tomasello (2009)

My project does not directly address matters of 'power' or apply a particular theorization of power. However, the idea of an ecological politics presupposes the existence of actors with narrowly-defined interests arrayed against the move towards ecological societies, and the power to prevent such a move. Indeed, if we were to ignore such real limitations and act as though the conditions for Self-realization and a Green hegemony already existed, we would have to conclude that politics was unnecessary. However, to act from a deep ecological perspective requires that such limitations of the self – and the societies and politics built of these selves – be treated as contingent – and not natural, necessary, or inevitable. All ecological political action, whether or not it explicitly follows (or explicitly rejects) the principles of deep ecology and the norm of Self-realization, must share Næss' belief in an expansive human nature to some extent. Without such a conviction, ecological activism is restricted to advocating for the efficient management of state and corporate bureaucracies. It is shut out of politics. This attempt to project the possibilities of politics beyond the strictures of contemporary power relations is not to deny their import, but to affirm, with Næss, the importance, in deep ecology and ecological politics, of continually returning to the matter of basic goals and fundamental values. The actual distribution of power will always, in practice, restrict what is *immediately* achievable. However, to naturalize the conditions established by an historically contingent distribution of power is to severely restrict the ability to act in pursuit of fundamental values. An insistence on both deep questioning and the formulation of ultimate norms on the one hand, and the potential for the realization of an expansive human nature on the other, inform the (deep) ecological political project.

Taking deep ecology's concern for identification as a point of connection with political and philosophical approaches is not simply a matter of theoretical or methodological convenience. We can find evidence in biology that identification is central to our being the kind of social animals we are. Frans de Waal argues that *to the extent* that humans are "highly cooperative, sensitive to

injustice, sometimes warmongering, but mostly peace loving" it is because of group instincts that emerge from mechanisms for empathy, rather than being built down from abstract ethical principles (de Waal 2010). The root of this empathy is a form of reflexive identification that functions first on a bodily, emotional, precognitive level, before becoming the basis for sympathy and ethics. It is based on the ability of our brain to immediately emulate the physical and emotional states of others. "Identification is the hook that draws us in and makes us adopt the situation, emotions, and behavior of those we're close to" (*Ibid.*: 55). This identification takes place

> at the level of affective relations which always involves a lived understanding within my body of the life of another's body (of her or his way of being present in and relating to the world, of the timbre of the voice and not merely what is said (…) and it is through these bonds, which are deeper than understanding or agreements about practical tasks or the values that should govern actions, that each person accedes to selfhood and to the world by acceding to the other (Gorz 1989: 174-175).

In de Waal's view,

> without a concept of self, we'd lack mooring. We'd be like little boats floating and sinking together. One wave of emotion, and we'd move up or down with it. In order to show genuine interest in someone else, offering help when required, one needs to be able to keep one's own boat steady. The sense of self serves as anchor (de Waal 2010: 115).

Yet the deep neurological roots of empathic identification lead him to ask "why try to extract the self from the other, or the other from the self, if the merging of the two is the secret behind our cooperative nature?" (*Ibid.*: 73) He has arrived at ecosophical Self-realization by another route, and provided a further rationale to place the matter of identification and the center of questions about human society.

My intent in examining the digital commons in the light of deep ecology follows, as well, from Næss' assertion that "cultural diversity today requires advanced technology, that is, techniques that advance the basic goals of each

culture. So-called soft, intermediate, and appropriate technologies are steps in this direction" (Næss 1989: 31). I wish to explore the question of how file-sharing networks and other technologies of the digital commons are 'appropriate' and in what ways they remain 'inappropriate.'

My discussion of the relationships between the aesthetic, the political and the ecological will take place within the context of Næss' 'gestalt ontology,' which "admits sensory reality with sterling ontological status" (*Ibid.*: 56). A gestalt ontology prioritizes the connection between sense and reality and entities and environment. In this view, the characteristics of entities available to sensory perception

> are not subjective, but, like smell, bound in an interdependent relationship to our conception of the world. This is what is meant by calling them 'relational' - rather than 'relative' or 'subjective'. It is justifiable to refer to them as objective in the sense of being independent of a person's likes or dislikes. We arrive, not at the things themselves, but at networks or fields of relations in which things participate and from which they cannot be isolated (Næss 1989: 48-49).

Entities themselves are inseparable from these fields of relations –

> Speaking of interaction between organisms and the milieux gives rise to the wrong associations, as an organism is interaction. Organisms and milieux are not two things - if a mouse were lifted into absolute vacuum, it would no longer be a mouse. Organisms presuppose milieux (Næss 1989: 56).

Human nature is not only inseparable from its surroundings and relations, but, in Næss' view, humans uniquely "have a sufficient natural endowment such that they can perceive and enjoy their kinship with living beings of the most diverse kinds," and such kinship is necessary to realize the "total potentiality" of human individuals, which means "to live out their full capacities for identification with other life-forms" (Næss 2005: 185).

In Næss' interpretation of deep ecology, at least, the concept and experience of identification is key to human potential. Questions of identity and

identification are also central to the analysis of what has alternatively been called postmodernity, late modernity, liquid modernity, or the network society. This analysis is the focus of the next chapter.

2. The Network Society and Politics in Postmodernity

In this chapter I will briefly present models of the network society, postmodernity, politics and the public sphere. These will serve as the context in which I discuss deep ecology and the digital commons in later chapters.

2.1 The network society's technological and economic basis

In the three volume *The Information Age: Economy, Society, and Culture*, Manuel Castells lays out his description of the 'network society,' the global system that arose from new methods of organizing and using capital from the 1970s onward. This new system is one of *informational capitalism*. Informationalism is its *mode of development* and capitalism is its *mode of production* (Castells 2009a: 503). While industrialism's central principle was the maximization of output, informationalism "is oriented towards technological development, that is toward the accumulation of knowledge and towards higher levels of complexity in information processing" (*Ibid.*: 17), a process which turns the "capacity to process symbols" into "a direct productive force" (*Ibid.*: 100). Informationalism does not so much replace industrialism as "it subsumes it through technological deepening, embodying knowledge and information in all processes of material production and distribution on the basis of a gigantic leap forward in the reach and scope of the circulation sphere" (*Ibid.*). The reorganization of capitalism along informational lines involved not only the application of information and communications technologies (ICTs) within nation states, but their use in the creation of a global economy, which differs from the world economy that existed before that point in that it works *simultaneously* on a global scale. While a majority of production remains localized in nature, nearly all of it is connected to and dependent on global institutions which include "financial markets,

international trade, transnational production (…) science and technology, and specialty labor" (Castells 2009a: 101).

Although under this system, a majority of new technological developments are produced for private markets, the technologies and policies that made the system possible were the creation of state initiatives (*Ibid.*: 69). The relationship between new technologies and new patterns of economic activity was not unidirectional. Globalization required the development of ICTs but was not solely determined by them; that process was part of a political and economic project responding to economic crises of the 1970s, characterized by slowed economic growth and rising inflation[4], comprising policies of corporate restructuring, including a shift to *flexible production*, deregulation and economic liberalization, all of which

> aimed at four main goals: deepening the capitalist logic of profit-seeking in capital-labor relationships; enhancing the productivity of labor and capital; globalizing production, circulation, and markets, seizing the opportunity of the most advantageous conditions for profitmaking everywhere; and marshaling the state's support for productivity gains and competitiveness of national economies, often to the detriment of social protection and public interest regulations (*Ibid.:* 19).

The relationship between capital, labor, and production was also changed by the use of ICTs to "replace work that can be encoded in a programmable sequence and enhance work that requires analysis, decision, and reprogramming capabilities in real time", with the result that "every other activity (…) is potentially susceptible to automation, and thus the labor

[4] Harvey (1992: 145) explains the crisis thusly: "The momentum of the postwar boom was maintained through the period 1969-73 by an extraordinarily loose monetary policy on the part of both the United States and Britain. The capitalist world was awash with excess funds, and with few diminished productive outlets for investment, that meant strong inflation. The attempt to put a brake on rising inflation in 1973 exposed a lot of excess capacity in Western economies, triggering first of all a world-wide crash in property markets (see figure 2.6) and severe difficulties for financial institutions. To that were added the effects of OPEC's decision to raise oil prices, and the Arab decision to embargo oil exports to the West in the 1973 Arab -Israeli War. This (1) changed the relative cost of energy inputs dramatically, and pushed all segments of the economy to seek out ways to economize on energy use through technological and organizational change, and (2) led to a recycling problem of surplus petro-dollars, that exacerbated the already brewing instability in the world's financial markets."

engaged in it is expendable (although workers as such are not, depending upon their social organization and political capacity)" (Castells 2009a: 258).

Castells asserts that the movement from a world economy to a global economy means that "for the first time in history, the capitalist mode of production shapes social relationships over the entire planet," and in this new global mode, "capital accumulation proceeds, and its value-making is generated, increasingly, in the global financial markets enacted by information networks in the timeless space of financial flows" (Castells 2009a: 502-503). The relations of production, trade, and financial transfer comprise the *space of flows*.

> This pattern of segmentation is characterized by a double movement: on the one hand, valuable segments of territories and people are linked in the global networks of value making and wealth appropriation. On the other hand, everything, and everyone, which does not have value, according to what is valued in the networks, or ceases to have value, is switched off the networks, and ultimately discarded (*Ibid*.: 134).

Power and wealth is contained within the space of flows, "while people's life and experience is rooted in places, in their culture, in their history (…) elites are cosmopolitan, people are local," occupying the *space of places* (*Ibid*.: 446). While power in the space of flows is still geographically concentrated, at times to a greater extent than before, its operations are more detached than ever. Thus the financial center of a world city can be radically separated from mere 'places' that surround it. The "infinite social distance" between the space of flows and the space of places creates a situation in which "the network society, increasingly appears to most people as a meta-social disorder" (*Ibid*.: 508) as "core economic, symbolic, and political processes" are moved away from the

space of places where social meaning can be constructed and political control can be exercised" (Castells 2009b: 182).[5]

While elites exercise power through the manipulation of flows of capital, information, and symbols, even individual capitalists are in some ways subordinate to the network itself. This is seen most clearly in the patterns of ultra-high-speed electronic financial trading, which form a "faceless collective capitalist" that "does not truly follow the law of supply and demand: it responds to the turbulences, and unpredictable movements, of non-calculable anticipations, induced by psychology and society, as much as by economic processes" leaving even those with power

> ultimately dependent upon the non-human capitalist logic of an electronically operated, random processing of information… capitalism in its pure expression of the endless search for money by money through the production of commodities by commodities (Castells 2009a: 505).

The partition of a space of flows and a space of places, and the corresponding distributions of power are subsidiaries of a network logic, and the technology which instantiates it, that logic functioning as the actual hegemon of the network society. In this network,

> power relationships… must be understood as the capacity to control global instrumental networks on the basis of specific identities, or, seen from the perspective of global networks, to subdue any identity in the fulfillment of transnational instrumental goals (Castells 2009b: 358).

Struggles to "control global instrumental networks" are fundamentally cultural struggles: "power, as the capacity to impose behavior, lies in the networks of information exchange and symbol manipulation" (Castells 2010: 379). The transformation of the manipulation of symbols into the central practice of power is accompanied by a range of cultural changes.

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[5] As will be discussed in chapter 6, in Castells' view this means that "the emphasis of ecologists on locality, and on the control by people of their living spaces, is a challenge to a basic lever of the new power system" (Castells 2009b: 182).

2.2 Postmodern culture in the network society

The phenomena that have been placed under the umbrella term "postmodernity" emerge more or less contemporaneously with the crises at the foundation of the network society. For the purposes of this project, I will treat postmodernity, broadly, as the cultural symptoms of the information age. In summarizing its characteristics, I will be mainly drawing on Castells, as well as Harvey (1992), Bauman (2006) and Postman (2005).

In their analyses, postmodernity is defined by insecurity, instability, and uncertainty, which accompanies the diffusion of power into heterogeneous, shifting cultural codes and narratives, and the compulsory individuation of problems, solutions, and activities. This diffused power 'escapes' to the space of flows, and is exercised at a distance by those able to manipulate cultural codes in information networks. The most powerful symbols in this system are those encoded in images, transmitted and received through televisual communications, first on television and later its computerized cognates. For Castells, the shift to an informational, network society is characterized by the transition from 'role' to 'identity' as an organizing principle. Where roles were defined by a particular position in social structures, identity is defined by a constellation of cultural attributes. The distancing of power means that at the same time life experiences become mandatorily individualized, transformative agency seems to disappear. The "modernizing impulse…the compulsive critique or reality" becomes "privatized," turning it into "compulsive self-critique born of perpetual self-disaffection."

> Being an individual *de jure* means having no one to blame for one's own misery, seeking the causes of one's own defeats nowhere except in one's own indolence and sloth, and looking for no remedies other than trying harder and harder still (Bauman 2006: 38).

As the movement of capital accelerates, the rate of consumptive activities increases and ICTs collapse the time between places and events. There is a shift in the identity of the "cultural mass" from an association with the

working-class to the ideals of individualism and "entrepreneurialism" (Harvey 1992: 348). This also entails a shift from life organized around production, to a life organized around consumption. In the former regime, some desires are cast as needs, while others are limited by social norms. In the latter, this is replaced by an unbounded cycle of desire, satisfaction, and new desires. This more rapid cycle also leads to a "shift of emphasis from production of goods…to the production of events" (Harvey 1992: 157). This "culture of consumerist narcissism" is part of a larger phenomenon along with the "culture of urgency" among socially precarious urban populations, "a culture of the immediate end of life" in which "everything has to be tried, felt, experimented, accomplished, before it is too late, since there is no tomorrow" (Castells 2009b: 67).

In a world of floating, disconnected cultural codes, of atomized individuals and a collapsed time frame, the basis of political action is no longer civil society, in the sense of a stable, well-defined public sphere in which common cause is found around notions of a common good, featuring centralized political actors, such as the "mass political parties, which characterized the political left of the industrial era" (Castells 2009b: 155). They are replaced by what Bauman (2006: 37) calls communities of shared intimacies, which are as

> fragile and short-lived as scattered and wandering emotions, shifting erratically from one target to another and drifting in the forever inconclusive search for a secure haven: communities of shared worries, shared anxieties or shared hatreds - but in each case 'peg' communities, a momentary gathering around a nail on which many solitary individuals hang their solitary individual fears.

Castells, more optimistically, terms these "defensive identities" that arise in urban localities or other limited spaces as "resistance identities," which hold the potential, but not yet the actuality, of the "project identities" of the previous era. Such resistance identities amount to "the exclusion of the excluders by the excluded (…) the building of defensive identity in the terms of dominant institutions/ideologies, reversing the value judgment while reinforcing the boundary" (Castells 2009b: 9).

The political role and strategies for legitimization of the state also changes under postmodern conditions.

> The (re)construction of political meaning on the basis of specific identities fundamentally challenges the very concept of citizenship. The state could only shift the source of its legitimacy from representing people's will and providing for their well-being, to asserting collective identity, by identifying itself with communalism to the exclusion of other values and of minorities' identities (Castells 2009b: 402-403).

For a resistance identity to become a project identity, individuals must become *subjects*, "the collective social actor through which individuals reach holistic meaning in their experience (…) the building of identity is a project of a different life (…) expanding toward the transformation of society" (Castells 2009b: 10). Such collective social actors can then construct project identities as "a blueprint of social values and institutional goals that appeal to a majority of citizens without excluding anybody, in principle" (Castells 2009b: 369).

At the same time that the citizen is replaced by the individual, the postmodern state, while certainly not powerless, begins to lose its autonomy vis-à-vis the global circulation of capital, as power escapes into the space of flows. Caught between these two forces, with legitimacy resting on the assertion of collective identity, "the management of insecurity" becomes the "most appropriate mode of functioning of (…) states" (Rancière 2010: 106). Meanwhile, with power diffused in cultural codes, transmitted through a predominantly televisual media, "leadership has been replaced by the spectacle" (Bauman 2006: 155). In this form of "television politics (…) the politician does not so much offer the audience an image of himself, as offer himself as an image of the audience" (Postman 2005: 142). This is the process of identification through which power-as-cultural-codes consolidates in certain actors: by those actors presenting images of themselves as in alignment with whatever codes are dominant at any particular time. In this situation, "the most poignant yet the least answerable question (…) is not 'What is to be done?' (in order to make the world better or happier), but 'Who is going to do it?'" (Bauman 2006:

133). Bauman's limited answer to this question refers to a new role for critical theory, which was once

> the defence of private autonomy from the advancing troops of the 'public sphere', smarting under the oppressive rule of the omnipotent impersonal state and its many bureaucratic tentacles or their smaller-scale replicas (…) [but] is now to defend the vanishing public realm, or rather to refurnish and repopulate the public space (Bauman 2006: 39)

In Castells' terms, the 'who' is a public that shares a project identity, developed from the linking and expansion of various resistance identities.

> Examples of such processes, as observed in contemporary social movements and politics, are the construction of new, egalitarian families; the widespread acceptance of the concept of sustainable development, building intergenerational solidarity into the new model of economic growth; and the universal mobilization in defense of human rights wherever the defense has to be taken up. For this transition to be undertaken, from resistance identity to project identity, a new politics will have to emerge. This will be a cultural politics that starts from the premise that informational politics is predominantly enacted in the space of media, and fights with symbols, yet connects to values and issues that spring from people's life experience in the Information Age (Castells 2010: 389).

To further develop the idea of this transition from resistance identity to project identity, through a cultural politics fought with symbols, we turn to other theorists.

2.3 The democratic and ecological radicalization of (post)modernity

In *The Green State* (2004), Robyn Eckersley applies a form of analysis she terms "critical political ecology" as a method for identifying paths from contemporary forms of liberal representative governance towards more ecologically sensitive forms of state organization. In brief, critical political ecology begins from the tradition of critical theory, "the practice of critically reflecting on and harnessing those moral resources within existing social arrangements that might enable new forms of community with higher states of freedom" and then "extend[s] the project of emancipation to include both the human and the nonhuman world." It inherits from critical theory a view of

"claims that there is an objective reality" as "always and unavoidably evaluative, historically contingent, and filtered through different social frames and social standpoints" and the goal "not to discover what is really true or false but rather what is found to be more rational, [meaning] *reflectively acceptable* by social actors" (Eckersley 2004: 8-9).

In drawing on traditions of civic republicanism and Habermasian conceptions of public-sphere deliberation, the critical political ecology approach has many similarities with the work of Laclau and Mouffe, who formulated earlier proposals for the expansion and deepening of democratic politics and governance, without an explicit ecological focus. Both aim to build on the foundation of liberal democracy rather than to reject it. These perspectives have parallels with both deep ecological thought and structures of the network society. In this they are particularly suited to my present project of finding contemporary points of application, explication and expansion for deep ecology.

Eckersley's approach calls for creating institutions which increase the extent and efficacy of public deliberation, and fostering critical public discourses. The goal is to include all those affected by risk-generating decisions in the decision making process, as both a matter of justice and as a practical means to reduce environmental risks in public action. This involves a rebalancing of liberal freedoms and a redefinition of liberal autonomy. Action which "undermine[s] public environmental goods such as the waterways, oceans, atmosphere, and biodiversity" (Eckersley 2004: 96) is, in this view, a restriction of the freedom and autonomy of all those who use such environmental goods. This leads to a critique of the classic liberal conception of autonomy, which "rests on an incoherent and undesirable ontology—that of social and biological detachment" (*Ibid.*: 104). Here we begin to see a direct connection to Næssian deep ecology, as the difference between liberal and

ecological democracy is rooted in different conceptions of the self, as either atomistic of interrelated.

The principle of including all ecological stakeholders in democratic deliberation also requires institutions which reach beyond contemporary nation-states. This includes transnational states, such as the EU, which Castells sees as a symptomatic response to conditions in the network society. Næss (2005: 197) similarly states that the political implications of deep ecology call for simultaneous centralization and decentralization. Such a system of layered, networked governing institutions at local, regional, national and transnational levels requires forms of political participation and citizenship with new balances of the principles of *belonging* and *affectedness*. Belonging is defined by characteristics such as nationality and civic participation, and affectedness by ecological embeddedness and exposure to risks. Eckersley imagines these forms developing through transnational arrangements which supplement political institutions based on belonging with new structures which provide a form of ecological citizenship rooted in affectedness. Such transnational institutions may also include the international NGOs which John Keane (2013: 25) casts as important actors in *monitory democracy*, a system of "one person, many interests, many voices, multiple votes, multiple representatives" in which political and economic power is checked by reporting and communication wherever it is exercised.

Chantal Mouffe places the issue of belonging at the core of political questions. Liberal deliberation is not simply a matter of individuals pursuing their interests through rational public discourse. Politics requires the creation and maintenance of group identities and membership in forms of political association. Rather than accepting the liberal notion of natural rights, Mouffe (1993: 46) argues that all notions of rights, and of justice, "cannot exist prior to and independently of specific forms of political association - which by definition imply a conception of the good." As with Næss' prioritization of

ontology and relations over ethics, here questions of value cannot be abstracted from the particular ways in which persons and (social and natural) environments are constructed. For Næss (2010: 534) "the conditions of life on Earth are such that increase of self-realization is dependent on conflicts." Similarly, for Mouffe, politics must be agonistic, and it is through confrontation and debate that group identities, publics and politics are realized. The relevant question becomes what sort of identifications are to serve as the basis for politics. "In the question 'What shall we do?', the 'we' is not given but rather constitutes a problem" (Mouffe 1993: 50). This is echoed in Michael Zimmerman's description of deep ecologists as "claim[ing] that before knowing what we ought to do, we must understand who we really are" (Fox 1990: 227). In Keane's estimation, the institutions of monitory democracy, human rights organizations and networks, aim to answer this same question, of "who decides who 'the people' are?" by answering that "every human being is entitled to exercise their right to have rights" (Keane 2013: 41). This particular formulation may be a bit unclear, but it is similar to Mouffe's in that instead of presenting rights as given, universal, or 'natural', they arise from deliberation, contestation, and communication. The "right to have rights" leaves the determination of specific rights a contextual matter, but it denotes the fundamental consideration of others having value in themselves. The right to have rights can be read as the "value that is the same for every human being, namely intrinsic value" (Næss 2005: 95).

While politics is agonistic, it also requires an element of homogeneity in order to constitute a single *demos*. Instead of searching for this homogeneity in exclusionary, insular forms of communitarian identification such as ethno-national belonging, Mouffe believes that democratic politics can proceed from a group identification with the principles and institutions of liberal democracy itself – most fundamentally, the principles of liberty and equality. This is Habermasian "constitutional patriotism," which is supposed to provide "a more abstract, more cosmopolitan, and more inclusive foundation than

ethnicity upon which to ground social solidarity" (Eckersley 2004: 147). It is a project of identifying with a framework. For Mouffe

> the real task (…) is to foster allegiance to our democratic institutions, and the best way to do this is not by demonstrating that they would be chosen by rational agents 'under the veil of ignorance' or in a 'neutral dialogue', but by creating strong forms of identification with them. (Mouffe 1993: 151)

As with Self-realization, identification with the (in this case, political, institutional) environment is cast as more important than abstracted ethical arguments. Thus:

> It is not liberalism as such which should be called into question, for as an ethical principle which defends the liberty of the individual to fulfill his or her human capacities, it is more valid today than ever...What is involved is the production of another individual, an individual who is no longer constructed out of the matrix of possessive individualism. The idea of 'natural' rights prior to society - and, indeed, the whole of the false dichotomy individual/society - should be abandoned, and replaced by another manner of posing the problem of rights. It is never possible for individual rights to be defined in isolation, but only in the context of social relations which define determinate subject positions. As a consequence, it will always be a question of rights which involve other subjects who participate in the same social relation (Laclau and Mouffe 1985: 184).

Similarly, the rights of non-human members of the ecosphere are not 'natural rights' which derive from some minimum level of sentience which qualifies them for ethical consideration, but are rights that arise from their participation in ecological relations, express by Eckersley as "affectedness." This is to abandon the idea of 'natural' rights prior to ecological embeddedness, and the dichotomy individual/ecosystem, and to extend critical theory's project of emancipation to the non-human world.

In such a political framework, agreement on the principles of liberty and equality serves as the basis for political association, but disagreement on the precise meanings and implications of those terms becomes the basis for political contestation. Mouffe's goal within this frame is to increase

democratic identification by increasing the range and reach of democratic practices, and thus the range of identities that can be linked to political democracy. The expansion of democracy is created through a particular form of identification that Laclau and Mouffe term the creation of "chains of equivalence." This is "the construction of a new 'common sense' which changes the identity of the different groups, in such a way that the demands of each group are articulated equivalentially with those of the others" (Laclau and Mouffe 1985: 183). Jameson (2005: 245) describes this as a kind of "poetic relationship" in which "the literal cause of one group is adopted as a figural abstraction (autonomy, democracy) by another group which has a different conception of autonomy." Creating an awareness of common ecological vulnerability is one form of constructing common sense. Any such equivalence can never be total, and the continuation of democratic practice precludes the creation of a single form of equality. Different forms of equality and liberty apply to different political spaces; constructing chains of equivalences involves identifying the way in which particular struggles around these principles are commonly opposed by certain actors, structures or discourses. For Laclau and Mouffe (1985: 185), "the extension of democratic rights from the classic 'political' domain to that of the economy (…) is the terrain of the specifically anti-capitalist struggle (…) [which] defends the right of the social agent to equality and to participation as a producer and not only as a citizen." For Eckersley, the extension of democratic rights from the classically political domain to non-humans and all those affected by environmental decision-making is the terrain of the specifically ecological struggle. Equivalences can be created, as has been discussed in this chapter, to the extent that they are commonly opposed by established ('hegemonic') liberal discourses and institutions and actors that benefit from the suppression of such freedoms. In contrast to Mouffe's negatively-defined equivalences, Næss (1989: 80) conceives of equivalence as addressing the "problem [of] what can be established as the greatest common goal, to which all personal and social

endeavours should be directed." As will be explored in the further chapters, other extensions of rights and freedoms are specific to the domains of aesthetics and digital networks. In this section, I have begun to suggest that one such commonly opposed discourse is the discourse of property rights in classical liberalism. One of my main concerns going forward will be to identify such equivalences between specific conceptions of liberty and equality in different domains, and to use network imagery to further conceptualize such chains.

Næss repeatedly asserts the appreciation and defense of diversity for its own sake as a fundamental part of his ecosophy. Bauman, Eckersley and Mouffe all promote pluralism as both a goal and a strength of democracy in general, and of the particular democratic project they wish to pursue. For Bauman (2006: 178), "the pluralism of modern civilized society is not just a 'brute fact' which can be disliked or even detested but (alas) not wished away, but a good thing and fortunate circumstance." Eckersley (2004: 96) calls for "the flourishing of more plural possibilities," and for Laclau and Mouffe, the principle of liberty cannot be instantiated outside a pluralistic context. However,

> the specificity of modern democratic pluralism is lost when it is envisaged merely as the empirical fact of a multiplicity of moral conceptions of the good. It needs to be understood as the expression of a symbolic mutation in the ordering of social relations (Mouffe 1993: 147).

In order to get a better understanding of what it means for democracy to be a "symbolic mutation," we can look to Tomasello and Vaish's (2013) proposed phylogeny for human cooperation. In this hypothesized sequence, the development of prosocial, altruistic instincts (which appear very early in infants) and the cognitive ability to track reciprocity over time engendered close cooperation among small interdependent groups in regular, direct contact. Later, intergroup competition motivated the development of larger groups in which

> many interactions were not based on personal histories of individuals with one another but rather on group membership alone (…)This kind of group-mindedness, underlain by skills of collective intentionality, engendered truly impersonal, agent-neutral, objective social norms (Tomasello and Vaish 2013: 239).

Once social activity extends beyond an immediate group, it comes to rely on abstract, symbolically constructed norms and identities. Democratic principles of liberty and equality, then, are not simply the historical reemergence of small-group egalitarianism, but a remapping of those egalitarian instincts to a novel construction of group identity and its supporting norms. Democratic pluralism is then a historical mutation in the symbolic construction of norms which allows and even calls for a pluralism within the identity of groups. The deepening of democracy comes from more pluralistic and encompassing mutations in the forms of identification and normative structures.

To further explore the character of the democratic symbolic mutation, and to draw connections between politics as presented in this section with the notion of aesthetics, I will draw upon the work of Jacques Rancière. The connection between politics and aesthetics will later prove useful in further exploring the relationship of ethics and ontology in deep ecology, and the place of all of these concepts in the digital commons.

2.4 Politics and aesthetics

Rancière's notion of what constitutes politics is compatible in many ways with the definitions that Eckersley and Mouffe use. However, it requires some explanation. The key ideas are the distinctions he draws between *consensus* and *dissensus*, between the principles of *police* and *politics*. These distinctions in turn draw on a particular definition of democracy and the *demos*. In democracy

> politics means the supplementation of all qualifications by the power of the unqualified. The ultimate ground on which rulers govern is that there is no good reason as to why some men should rule others (…) The *demos* is not the population, the majority, the political body or the lower

> classes. It is the surplus community made up of those who have no qualification to rule, which means at once everybody and anyone at all (Rancière 2010: 53).

That is to say, the *demos* of democracy is not an aggregate of atomistic individuals, who negotiate their competing interests through public deliberation and representative bodies. The *demos*, as a 'surplus community,'[6] is a category that arises outside of the particular characteristics of the members of the group, when those members are brought together under the principles of liberty and equality. The politics that this particular surplus body, the *demos*, pursues, "invents new forms of collective enunciation; it re-frames the given by inventing new ways of making sense of the sensible" (Rancière 2010: 139). This is a process of *dissensus*, which is to create "forms of subjectivation in the interval between two identities; creating cases of universality by playing on the double relation between the universal and the particular" (Rancière 2010: 57). Rancière also refers to *dissensus* as the putting of two worlds into one, of contrasting one distribution of the sensible with the distribution of 'common sense.' Laclau and Mouffe's creation of chains of equivalence are an activity of this dissensual sort. Chains of equivalence create new political subjects out of specific struggles by reframing the given sensory world to identify discourses, structures, institutions and actors which oppose them in common.

Opposed to this particular conception of *dissensus*, then, is consensus, which

> does not consist in peaceful discussion and reasonable agreement, as opposed to conflict or violence. Its essence lies in the annulment of dissensus as separation of the sensible from itself, in the nullification of surplus subjects, in the reduction of the people to the sum of the parts of the social body and of the political community to the relations between the interests and aspirations of these different parts (Rancière 2010: 43).

We may be aided in understanding this idea by comparing it to the distinction that Fox draws between transpersonal ecology and various rights-based

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[6] This is not a "surplus community" in the sense of a subaltern, an army of reserve labor, or a 'multitude.' It is surplus in the sense of being beyond a simple aggregation of characteristics; it is 'anybody at all.'

accounts of environmental ethics. As in the difference between the principles of dissensus and consensus, right-based approaches attempt to isolate individual living beings and their characteristics – sentience, the ability to experience pain – that would then afford them certain natural rights. This is also "the nullification of surplus subjects," in that it limits consideration of living beings to characteristics thought to reside within them, instead of considering qualities that emerge from their participation in an ecosystem. Rancière's particular interpretation of democracy might be understood through a comparison with ecology. An ecosystem is not simply the aggregate of living beings and other elements, but is a kind of surplus community that arises when these entities are brought together in relation. Ecology is a way of viewing the sorts of relations that turn a community of objects and subjects, living and non-living entities, into an ecosystem. Democracy, a "specific partition of the sensible" (Rancière 2010: 157), is a way of viewing the sorts of relations that turn a community of subjects into a *demos.*

For Rancière (2010: 42-43) "consensus is the 'end of politics': in other words, not the accomplishment of the ends of politics but simply a return to the normal state of things - the non-existence of politics." This end of politics Rancière associates with the principle of the *police*, by which he does not simply mean actually-existing police forces, "not a social function but a symbolic constitution of the social (…) a partition of the sensible that is characterized by the absence of void and of supplement" (Rancière 2010: 36). The supplement is the supplemental character of people as *demos*, a character which exists due to its constitution as a group, and not as a sum of preexisting attributes; void is its character of "at once everybody and anyone at all," and the void of there being "no good reason as to why some men should rule others." The *police* is the principle of managing populations based on the characteristics attributed to separate individuals and groups, "patterns and procedures of ruling that are predicated on a given distribution of qualifications, places and competencies" (Rancière 2010: 53). This sense of

the police, of managing populations, is akin to the anthropocentric relation to the non-human world.

> To understand human beings as a kind of animal—more precisely, as livestock—is, almost automatically, to belittle their dignity. That is also true—indeed, especially true—when this understanding makes it easier to take better care of the bodily well-being of this human animal (Groys 2008: 176).

Consensual 'biopolitics' and domestication treat both animal and human populations according to their characteristics, as objects of management and not subjects. Thus many of the medical interventions made in the lives of cattle – for example the antibiotics administered to corn-fed cows - would be unnecessary if the animals were allowed to more closely pursue their own interests rather than being managed according to the maximization of certain characteristics. In the case of non-human animals, this is the maximization of characteristics for some human purpose; in the case of humans, it is the maximization of 'their own good.' This logic of such policing can be seen in the contemporary world in such phenomena as "situational crime prevention," in which

> it becomes possible to prevent not just actual crimes but even pseudo-crimes—that is, acts that become "criminal" simply because people meeting a certain profile engage in them (at which point, SCP might sound more like sorting than policing) (Morozov 2013b: 245).

Such management of societies based on the characteristics of individuals leads to a "world (…) of atomistic, selfish individuals, perpetually concerned about security and unable not only to trust others but to engage in moral reasoning at all" (*Ibid.:* 247). As Morozov argues, such approaches are defended on the basis of rational-choice theory, which similarly informs programs of economic rationalization and interest-group models of politics. Again, *police* and actual policing are tied back to consensus. Management by characteristics and management by economic rationalization are both forms of "hetero-regulation" or "totalization."

> There are, however, two types of hetero-regulation or totalization (…) first, one which derives from a totalization (which no one wanted, anticipated or planned) of serialized actions by the material field in which they inscribe themselves; and secondly, one which involves organized programming, an organization chart drawn up for the purpose of getting individuals, who are neither able to communicate nor to arrive at a mutual agreement, to realize a collective result, which they neither intend nor are, in many cases, even aware of. The former type of hetero-regulation corresponds more particularly to regulation by the market. There is a tendency to consider this kind of hetero-regulation as self-regulation. In fact, it is a pure 'systemic mechanism' (Habermas) which imposes its laws from without on individuals who are then ruled by them and are forced to adapt and to modify their conduct and projects according to an external, statistical and totally involuntary balance of forces. The market for them is, then, an a-centred, spontaneous hetero-regulation. It can only be regarded as a form of self-regulation if the social whole is viewed from the outside as a purely material system whose constituent parts, like the molecules of an inert gas or liquid, are only externally related to each other and, since they lack the capacity to pursue any goal, are individually of no interest (Gorz 1989: 34).

These differing forms of hetero-regulation are all anti-ecological. They explicitly or implicitly deny that 'all things hang together'.

However, this is not to say that Rancière's politics exists only outside the operations of state and corporate bureaucracies and other institutions of power. While politics is "a supplement to the sensory worlds framed by state, military, economic, religious and scholarly powers," the sensory framework particular to politics intersects these other frameworks, and exists both inside and opposed to these institutions. Politics is a continual process that occurs throughout social realms, because politics is itself the displacement of "the limits of the political by re-enacting the equality of each and all" (Rancière 2010: 54). Similarly, Mouffe locates the *demos* in a community united around the principles of liberty and equality, the precise interpretation of which at any moment becomes the ground of contestation. This principle which founds the *demos* is similar to Næss' interpretation of intrinsic value in deep ecology, which is "a value that is the same for every human being (…) incompatible

with fascist racism and fascist nationalism, and also with the special ethical status accorded the (supreme) Leader" (Næss 2005: 95). To the extent that intrinsic value is taken as central to deep ecology, it can be defined as the application of the democratic principle to life on Earth.

Rancière identifies commonalities between the modern notions of political democracy and aesthetics, in a shared historical genesis and a shared dissensual nature. What he terms the 'aesthetic regime' arises with modern literature, and replaces the 'representational regime.' "The representational power of doing art (…) was bound up with the power of a social hierarchy based on the capacity of addressing appropriate kinds of speech-acts to appropriate kinds of audiences" (Rancière 2010: 157). The aesthetic regime ends "every determinate relation correlating the production of art forms and a specific social function" (*Ibid.*: 138); in modern literature, "the writer is anybody and the reader anybody" (*Ibid.*: 157). Like the *police*, the representational principle demands particular relations between specific actors and specific acts, while the principles of politics and aesthetics respond by enacting and re-enacting liberty and equality: "the 'politics' of literature emerges as the dismissal of the politics of orators and militants, who conceive of politics as a struggle of wills and interests" (*Ibid.*:163). Thus, it is not only similar to Rancière's concept of politics, but to Eckersley and Mouffe's opposition between deliberative democracy and interest-group politics. In the aesthetic regime, liberty and equality take the form of the "indifferent gaze" – all subjects are free to look upon, and evaluate, all objects, equally. (This is not indifference in the form of apathy or disengagement, but a lack of prejudgment in the kinds of objects open to the gaze.) In a discussion of political photography, Ariella Azoulay describes the indifferent gaze thusly: "the aesthetic existence of an image must be understood as its action upon the senses. This action upon the senses, or the impression of the senses, has no purpose beyond itself" (Azoulay 2010: 252). For Azoulay, the "political" and the "aesthetic" cannot be absolutely separated. All objects are aesthetic, since

"the aesthetic is given by way of the object's being given to the senses" and any piece of art, any object can be political, because the political "is not a trait [of objects] but [of] the relations between a plurality of persons" (Azoulay 2010: 250). Both aesthetics and politics are the site of "a struggle for recognition."

> Whereas politics is an arena in which various group interests have, both in the past and the present, fought for recognition, artists of the classical avant-garde have mostly contended for the recognition of individual forms and artistic procedures that were not previously considered legitimate. The classical avant-garde has struggled to achieve recognition of all signs, forms, and things as legitimate objects of artistic desire and, hence, also as legitimate objects of representation in art. Both forms of struggle are intrinsically bound up with each other, and both have as their aim a situation in which all people with their various interests, as indeed also all forms and artistic procedures, will finally be granted equal rights (Groys 2010: 13).

While aesthetic judgments will draw upon the characteristics of human sensory and cognitive capabilities, as well as cultural traditions of interpretation, including those inherited from the representational regime, each judgment emerges anew in a particular situation. This can be reformulated in terms of Næss' gestalt ontology: just as qualities such as color, extension, or mood do not exist purely in an object or in an observer, but exist in a field of relations, so do all aesthetic and political qualities arise in gestalts of relations between objects and subjects. Useful here is his notion of "apperceptive gestalts," being gestalts which bring together at least one sensory element and at least one "from a normative and/or assertive area (…) When one's attention is not deliberately focused upon perceptual gestalts, all experience is apperceptive." (Næss 1989: 60) Aesthetic objects exist in apperceptive gestalts, combining the perceptual aspects, what Azoulay calls the aesthetic existence, the action of objects upon the senses, and their "normative/assertive" aspects, the webs of meaning connected to those objects via their placement within social spaces. Thus, in Næss' terms, to demand that aesthetic objects be political, or apolitical, to criticize them for being too 'aesthetic' or too 'political' – to wish

for the separation of sensory and normative elements – is to focus on what he calls ‘lower order gestalts’ rather than the ‘higher order gestalts’ which include and expand on them. Since, in the view of a gestalt ontology, characteristics of objects do not reside ‘within’ them or ‘within’ a subject observing them, but arise in a relational field, aesthetic values, such as beauty, cannot be seen to be stable essences found in objects, but values that must arise anew in each gestalt in which the objects are placed. This does not preclude the possibility of particular objects being associated with the same values in many different relational fields over time – but these values will be appearing newly in each particular field of objects and subjects, in a web of sensory perceptions and the normative assessments that are products of social deliberation. If we look at the creation of modern museums and the notion of civilizing the ‘lower classes’ and maintaining social peace and order through exposure to ‘high art’ we cannot ultimately untangle such intents from the aesthetic qualities of art objects (more properly, the aesthetic qualities that arise in a web of relations between those objects and certain subjects) and those qualities from the very fact of a provision of public goods, the method of that provision, and the social milieu in which it takes place. The point here should not be to erase distinctions – such as the distinction between the aesthetic and the political – but, having identified differences between concepts, to locate them both within higher-order gestalts.

Aesthetics (or, the modern aesthetic regime as described by Rancière) and democratic politics are then two modes of describing and enacting relations between subjects and objects, and subjects and other subjects, following the principles of liberty and equality. “Aesthetic free play involves the abolition of the opposition between form and matter, between activity and passivity” (Rancière 2010: 176). As we saw in the previous section, this requires the expansion and redefinition of the freedoms of classical liberalism, including freedoms of listening, viewing, receiving, and participating, not simply freedom of speech. Liberty of expression in the form of rational speech alone

preserves, to some extent, the notion of "a social hierarchy based on the capacity of addressing appropriate kinds of speech-acts to appropriate kinds of audiences" (Rancière 2010: 157).

In this shared conception of aesthetics and politics, we may begin to bring together Næss, Rancière, and Mouffe to create a unified axiology without absolute divisions between aesthetics and ethics, and between aesthetics and politics. These become simply different configurations of the sensible, different ways of assigning value, or framing relations of value, between entities in the world given by sense experience. It is part of the Spinozan project of "placing (…) joys and other so-called subjective phenomena into a unified total field of realities" to overcome the "cleavage into two worlds (…) [of] the world of fact and the world of values" (Næss 2005: 114). The point of this, as with Næss' prioritization of ontology before ethics, is that the treatment of 'ethics' as a separate field or regime does not necessarily reflect the way value is actually experienced and acted upon.

Returning to look at the postmodern patterns of individualization and privatization through this lens, we see the shift from roles to identities as the shift from one form of identification, made untenable by economic changes, to another. The political and eco-political projects enumerated here are all proposals for progressive forms of identification to replace the merely reactive forms described by Castells and Bauman.

We can move from this conceptual unity to the specific character of the digital commons by returning to Keane's notion of monitory democracy. He believes that in a world in which citizens and civic groups are able, using technology, to continually monitor the use of power,

> people are coming to learn that they must keep an eye on power and its representatives, that they must make judgments and choose their own courses of action. Citizens are being tempted to think for themselves; to see the same world in different ways, from different angles, and to

> sharpen their overall sense that prevailing power relationships are not "natural," but contingent. In this sense, communicative abundance and monitory institutions combine to promote something of a "Gestalt switch" in the popular perception of power. The metaphysical idea of an objective, out-there-at-a-distance "reality" is weakened (Keane 2013: 48).

In this estimation, the current uses of monitory technologies in the network society inspire a re-framing of the sensory world, and the collapse of sharp distinctions between the world of facts and the world of values. Monitory institutions belong to the realm of communicative and deliberative justice called for by Eckersley and Mouffe. 'Communicative abundance,' on the other hand, may be the defining attribute of the digital commons – the focus of the next chapter.

3. The Digital Commons

In considering the digital commons within the context of this project, I follow Næss' counsel that "the position of technology in our society should be taken more seriously, not less, because of its importance for ultimate ends" (Næss 1989: 33). My intention is to describe how the digital commons might be a manifestation of the network society which fits an ecological view of appropriate technology, in which

> the value of technical change is dependent upon its value for culture in general. To assess change in technology within a lesser context than the ultimate cultural aims undermines the very existence of the culture. 'Advanced' technology is what advances the ultimate ends in life. Rationality is relational: rational is rational only in order to reach human ultimate ends, whether in terms of happiness or perfection (*Ibid.*).

A precise definition of the digital commons is made difficult by the rapidity of change within its moving boundaries. This fluidity also makes a precise definition less desirable, for contestation over the nature and extent of the digital commons is an essential aspect of its existence. At its broadest, the digital commons could be said to constitute all the material – code, text, image, sound – accessible through digital information networks. However, the nature and extent of control over the accessibility of this material by private, public, corporate and collective actors, and the conditions of that access, instituted through means of software code, law, and physical infrastructure, creates large, diffuse border regions in which it becomes unclear what is 'common' and what is not.[7] The digital commons is not simply the aggregate of networked digital material. It is the image of that material created by public contestation over the way the material should be held in common. Adopting the idea of the commons to describe digital material already characterizes that body of material as a political space. The commons refers not only to collectively held

[7] For more on the overlapping realms of the commons and intellectual property see e.g. Deazley 2006: 123.

property but also to a meeting place. The digital commons encapsulates the sum of digital material, all the cultural objects made freely and jointly available by way of being digitized and networked, the boundaries between public and private, and the political spaces created by contestation over these boundaries. Such a definition allows us

> rather than try to grapple with various conflicting or complementary interpretations of the public domain [to] consider the public domain in the abstract, as symbolic of many and varied individual fights (…) not as a 'territory' but rather as a concept (Deazley 2006: 105).

To the extent that the digital commons can be defined and located more concretely, this is for same reason its definition must be very broadly encompassing. That is: the criterion for inclusion in the digital commons is a technical one; the digital commons is that which can be digitized and distributed through ICT networks. It creates a commons in fact where there may not be a commons in laws covering intellectual property, or in our existing conceptions of the public sphere. In the digital commons, digitization *makes* the commons by fostering the means of common access.

Since the circumstances of the digital commons are varied and changing, definitive statements about the whole should be approached with caution. I will discuss peer-to-peer file-sharing networks as a specific phenomenon within the digital commons, with more certain attributes. My assertions about the digital commons should be taken to apply at least to file-sharing networks dedicated to the exchange of music and texts (taken to be the paradigmatic case) and often applicable to many other cases as well. I will argue that file-sharing networks are exemplary of the democratic and ecological potential of the digital commons, and can and should be used as a model in the struggle to determine the future of the digital commons. The digital commons and the ecosphere are twin sites for redefining the proper place of property in a project of democratic and ecological deepening of liberal democracy. Such a reorganization of property rights might include the provision of guaranteed

basic income schemes on a state basis, or, on an international basis drawing on the taxation of global financial transfers (Blackburn 2007) and the transformation of land ownership to land stewardship as proposed by Eckersley (2004). My intention here is not to propose any particular reform as universally appropriate or immediately practicable. My interest is instead in the way that ecological principles and principles of free digital exchange challenge the hegemonic position of property rights, ownership and accumulation as suitable mechanisms for the organization of society, while adjusting conceptions of freedom in the interests of a diverse and vital whole. First, however, I wish to place the digital commons in the context of the history of notions of copyright and intellectual property.

3.1 From piracy to copyright to intellectual property

Contemporary arguments in favor of restricting freedom of exchange in the digital commons tend to depict new technologies of reproduction and distribution as a threat to the established rights of authors in their intellectual property. Such a discourse is myopic in its understanding of the history of intellectual property and its encroachment on the public domain. "Rampant expansionism (…) is the story of copyright law throughout the twentieth and into the twenty-first century" (Deazley 2006: 152). This expansion followed two centuries in which copyright, only created in law at the beginning of the 18th century, was gradually transformed, through elision, mistaken historical memory, and the eclipse of public interests by private parties, from a limited privilege granted by the state in the public interest, to a natural property right in ideas. Simply put, "copyright was an invention of eighteenth-century Britain. It was unknown anywhere before 1700, and for much of the ensuing century no other nation had anything like it" (Johns 2010: 109). Before the creation of copyright, state involvement in printing was not concerned with notions of property. The details of regulation were left as a matter internal to the trade of printing itself, while the issuing of licenses to print was used as a

method to control the publishing of seditious and heretical material (Deazley 2004: 2). Parliamentarians began to abandon the system of license-driven state censorship when they saw how an active, loosely-regulated press could be used to garner support for their political positions, within the legislature and in the public sphere (*Ibid.*: 11, 29). The legal history of copyright begins with the Statute of Anne, enacted in 1710, which provided for a 14-year copyright in printed works, explicitly rejecting the prior existence of a natural or common law right to literary property (Deazley 2006: 13).

> A purely statutory phenomenon, copyright was fundamentally concerned with the reading public, with the encouragement and spread of education, and with the continued production of useful books. In deciding the case as they did, these eighteenth-century parliamentarians did not primarily seek to advance the rights of the individual author. Rather, explicitly denying the existence of a common law copyright, they acted in the furtherance of much broader social goals and principles. The pre-eminence of the common good as the organising principle upon which to found a statutory system of copyright regulation was championed, while the notion of an authorial copyright at common law had been declared not to exist (*Ibid.*: 23).

This dismissal of a perpetual common law right to property in ideas did draw opponents, and some of their objections match the more hyperbolic critics of digital networks' effects on cultural production. An early 19th century supporter of the notion of an author's perpetual common law right to works, in attacking the establishment of a limited legal right, "lambasted the present era of 'boasted enlightenment' which bore witness to hardly anything more than 'the curtailment of rights, and the imposition of burthens [sic]'" (Deazley 2006: 38). Unless we wish to consider the body of works printed before 1710 to be fundamentally superior to the body of works printed after that date, the repetition of such objections to the "curtailment of rights" to intellectual property should give us pause in too easily accepting similar complaints in regards to the effect of new technologies.

Copyright was, at the beginning, "an entirely pragmatic bargain involving the author, the bookseller and the public," with a broad "social focus (…) that concerned the reading public, the continued production of useful literature, and the advancement and spread of education" (Deazley 2006: 13-14). It was introduced after a period of fifteen years during which neither copyright nor any licensing system existed. Copyright initiated a particular legal regime that aimed to encourage the use of mechanical reproduction to increase distribution and access to cultural objects and nurture the vitality of the public sphere. There is little reason not to consider the possibility that new technologies of reproduction and transmission call for a different "pragmatic bargain."

In the centuries following the creation of a legal copyright, the gradual rewriting of legal history established a standard view that copyright had been enacted with an understanding of a preexisting common law property right in written works, such that "what had once been so heatedly contested, and rejected" came to be "quite simply an understood and accepted orthodoxy" (Deazley 2006: 90). Along with this revision of the understanding of copyright as a form of natural property right came further legislation that increasingly proceeded from such an understanding:

> As the rights of the copyright owner have increased, so the freedoms of the lawful copyright user have beaten a retreat. Moreover, underpinning this movement is an increasingly powerful process of conceptual reification, and the emergence of a ubiquitous discourse of property rights (and so, human rights) which operates to naturalise that very movement, destabilise any meaningful opposition thereto, and so render it seemingly inevitable. The emergence of such rhetoric can be traced with relative ease through the language which the legislation itself adopts: in 1911 the statute [in the United Kingdom] referred to the fact that 'copyright shall subsist … in every original literary, dramatic, musical and artistic work'; the 1956 Act provided the same, but added that 'copyright shall be transmissible by assignment, by testamentary disposition, or by operation of law, as personal or moveable property'; by 1988 the legislation set out, quite unequivocally, that '[c]opyright is a property right' (Deazley 2006: 150-151).

Thus, the current discourse of intellectual property portrays the defense of a form of natural property in ideas from technologically mediated violations of these rights. However, the history of intellectual property is of the notion of rights of property expanding to enclose more of the non-human world and the cultural commons. John Locke, in establishing a problematically anthropocentric theory of property, in which the non-human world is transformed into property through labor (Boon 2010: 210) did not consider this form of property to extend to the sort of intangible, 'nonrival' products now covered by the concept of intellectual property (Deazley 2006: 143). This theory of property has come to enclose more of the non-human world and the cultural commons and invest the holders of such rights with greater privileges.

Historically, however, the sort of unrestrained reproduction of cultural materials termed piracy precedes the concept of intellectual property. "The law of what we now call intellectual property has often lagged behind piratical practices, and indeed (…) virtually all its central principles, such as copyright, were developed in response to piracy" (Johns 2010: 6). While "it is easy enough to find complaints of intellectual misappropriation as far back as the ancient world (…) these acts never seem to have been called piracies, and (…) they were not legal offenses " (*Ibid.*: 19). Far from being a natural right, intellectual property is a reaction to certain forms of cultural mimesis, especially forms newly enabled by technology. In the present moment, the extension of the concept of piracy to the reproduction of digital objects has meant updating the notion of intellectual property to expand to nearly every kind of nonrival good. When intellectual property is seen not as natural but as a constructed area of contestation, one may counter that expansion with a vision of every kind of nonrival good belonging to a commons. The free copying and distribution, or 'piracy', of digital objects first creates a partially completed version of this commons; the reaction it elicits, in the form of intellectual property expansion, creates a space in which to respond with an even broader notion of what belongs in the commons.

Kant's model of the public sphere was based on individuals exercising "public" reason in a private space which allows them to speak in "in their own person." Following this,

> Kant observed that a bookseller who undertook to produce an edition must have an obligation to do so faithfully. This fidelity, he added, was facilitated by the provision of exclusive rights. Yet, he conceded, decades of attempts to outlaw reprinting by adducing some kind of property had failed. They would always fail, Kant now claimed, because the author's property, if it existed at all, was inalienable —it was an inseparable extension of the creative self. Instead, Kant returned to his idea that a true author exercised a freedom to speak in his own person. He reasserted this principle, remarking that a book was not merely a passive container of meaning, but a vehicle for a dynamic process of communication (Johns 2010: 55).

The rights of the author, as well as the reader, both being participants in the public sphere, can then be seen as the right to a certain placement within that sphere. Each participant must be able to speak in their own person, from a certain position uniquely their own and not usurped by plagiarism or censorship. That positionality must also grant them access to objects which serve as "vehicles for a dynamic process of communication" within the cultural commons. Such a conception allows for an ecological view of the public sphere and the cultural commons, organized around principles of location, flow and systemic function rather than property. In this ecological view, "the materials that compose our cultural heritage must be free for all to use no less than matter necessary for biological survival" (Patterson and Lindberg 1991: 50). Just as the richness of the digital commons may be better served by the limitation of the property rights that can be claimed on digital cultural objects, in the mid-20th century, the social benefit derived from new aeronautic technology led courts to limit the 'property' held in the airspace above owned land (Lessig 2004: 2). A new ecological techno-scientific context calls for the redefinition of other property rights – such as the right to emit greenhouse gases in that same airspace. A less anthropocentric relationship to the non-human world also calls for a reformulation of property rights. A purely

Lockean conception, in which nature can be freely turned to property through labor, is no longer appropriate. In the digital commons, 'owning' becomes a form of stewardship – one stores files both for personal enjoyment, but also so that they will continue to circulate through the network, keeping the ecosystem of cultural objects richly diverse. This is a form of 'ownership' that is non-exclusionary and contributes to the health of the whole.

As de Sola Pool (1983: 11) states,

> From the beginning some differences distinguished freedom of the press from freedom of speech. The physical printing plant was potentially hostage to state action, so the printer was sensitive to discriminatory taxes or other harassments. Copyright was important, as the publisher relied on sales to support costs that did not exist for the face-to-face preacher.

As the cost of each individual act of digital reproduction nears the cost of face-to-face speech, so might we move the law governing copyright closer to those guaranteeing freedom of speech, rather than expanding copyright on the basis of protecting a natural property right. Although copyright's original role was to ensure the economic viability of the production of cultural material for the public sphere, it did not function as the primary basis for that viability. In the vibrant print culture of the North American colonies, "bookmen had to be jacks-of-all-trades, selling paper, medicines, and dry goods more than books (…) The mainstays of the colonial printer's craft were not books at all, in fact—they were cheaper to import than print—but job work and newspapers" (Johns 2010: 180) which were not covered by copyright at all. The efficiencies of mechanical reproduction have often, perhaps always, meant that the spread of information or discourse, even when nonrival goods are necessarily transmitted by way of physical material, must be subsidized by other means; either by combination with other commercial ventures, through advertising, or state support. The 18th century English printing industry was not injured by the legislation of a time-limited monopoly in written works, - the North American printing industry thrived with exceedingly loose copyright; and the Dublin

printing trade profited under a system in which legal copyright was entirely absent (Johns 2010: 137, 146).

3.2 The digital object as a new commodity form

File-sharing, the free exchange of sounds, images, texts and software programs digitally encoded in computer files, is a product of the shift from industrialism to 'informationalism.' It relies fundamentally on the communications technologies that made possible globally-distributed flexible production and circulation of capital. In terms of its material basis, it is wholly a part of the economic structure of the network society; of postmodern informational capitalism. To see where it diverges from that system, and how it suggests alternatives to it, one can look at the nature of what is being shared. It may be best to begin with music encoded in MP3 files, the first files to be shared on a large enough scale to gain broad attention and participation, and still the paradigmatic case for file-sharing.

While the MP3 file is digital in nature, and there is no distinct material object corresponding to each one, it is still experienced as an object by its users; a song turned into a computer file can be just as much a discrete object as a vinyl disc with that same song encoded in its the grooves. Sterne (2006), expanding on Walter Benjamin, argues that since the relationship between collectors and objects is an intimate one, the very fact that MP3 files can be collected denotes their reality as "cultural objects." Since they can be the focus of perception, they are also already present as discrete aesthetic objects. The material that circulates on file-sharing networks might be more specifically labeled digitally-encoded aesthetic objects and digitally-encoded information objects, but the notion of "cultural objects" serves well as a category containing both the digitally-encoded objects distributed in file-sharing and the materially distinct recordings of sound, image and text, as well as other physical objects that have a role as symbols of communication and objects of aesthetic

perception. I will henceforth use the terms “cultural objects” and “digital cultural objects.”

While I do not intend to provide or borrow a definition which would delineate the ‘cultural’ from the ‘non-cultural,’ I will make a cursory attempt to provide some clarity as to what I mean by ‘cultural object.’ The cultural object is the reification of the broad swirl of human activity that can be termed ‘cultural’ into a form which can function as a discrete object of consideration by a perceiving subject, at least for a moment, and which can be transmitted to others as a discrete object. “Information” is not a cultural object, but an article, book, or blog post is a cultural object. A folk music tradition is not a cultural object, but a recording of a folk song is. The cultural object is a point at which the flow of relations that comprises culture becomes momentarily sensible as a concrete form, before joining again in the play of influences.

In economic terms, all digital cultural objects fall, by way of their digitization, into the category of “nonrival” rather than “rival” goods, two groupings which correspond roughly to “ideas” and “things”, the intangible and the physical. Physical goods are rivalrous because they can only be used in one place at a time, whereas nonrival goods can be used by an indefinite number of people in any number of places simultaneously. “By definition, a nonrival idea can be copied and communicated, so its value increases in proportion to the size of the market in which it can be used” (Romer 1996: 204). The greatest social benefit from nonrival goods may not, then, come from a system founded on property rights, and there are indeed a number of proposals for alternate methods of funding the production of distribution of cultural objects which do not treat them as property (Romer 2002: 216, Lessig 2004: 301).

Digital and nonrival or not, having a certain reality as an object does create the possibility of having a reality as a commodity. Digital cultural objects as conceived now do not escape entirely from the realm of commodification. Rather, they have a mixed, intermediate character which holds some potentials

that previous ideals, such as art severed entirely from market exchange, or an entirely un-commodified ‘nature’ or wilderness, do not.

Sterne, comparing the situation engendered by the MP3 with the earlier system of physical recordings, states that “if recording shifted music from use-value to exchange-value, then digitization in the form of the mp3 liberates recorded music from the economics of value by enabling its free, easy and large-scale exchange” (Sterne 2006: 7). Where once consumers would have to sacrifice the time in which they would be able to listen to recordings in order to earn the money needed to purchase those recordings, now digital cultural objects can be more directly used and experienced. Yet even when liberated from “the economics of value,” the digital object retains features of the commodity form. To borrow from a Marxian analysis;

> under conditions of commodity production, producers do not relate to one another in a direct, social way; they first enter into a relationship with one another during the act of exchange — through the products of their labor. That their social relationship to one another appears as a social relationship between things is therefore not at all an illusion (Heinrich 2012: 307).

File-sharing networks are, at their heart, a form of “social relations between things,” perhaps most clearly seen in the central function that monitoring of the ratio of data uploaded to data downloaded holds in many file-sharing networks (Boon 2010: 59). While participants may, and often do, choose to communicate person-to-person, either regarding the structure and rules of the networks or any and all other matters, the central function, the organizing activity for the network, is the relationship between digital objects being uploaded and downloaded, in differing ratios, to various computers. Yet this is a distinct and far more egalitarian type of relation than under the traditional regime of commodity exchange. The concomitant forms of material relations between persons are also of a different kind. File-sharing networks, and the digital commons more generally, certainly do not initiate or indicate a reversion to a situation of direct social relations between people and merely

material relations between things, but rather they enact new social relations between things, which are linked to new relations between people. While some eco-communalists, as represented by Ehrenfeld in Chapter 5, might lament this, there are reasons to think that new "relations between objects" are better suited to moving the network society in greener and more democratic directions than the attempt to return to a prelapsarian ideal of direct relations between people.

In his analysis of the MP3, Sterne suggests that there is a possible parallel to be drawn between the compression techniques the technology uses, which remove sound frequencies the human auditory system will not detect or does not require for perception, and the just-in-time production of globalized informational capitalism. Yet he ultimately decides that this is an unsatisfactory comparison, and that when "the mp3 encoder instrumentalizes and even celebrates the limits of the human ear (…) it suggests how little 'input' people need in order to have powerful and significant aesthetic experiences" (Sterne 2006: 14).

Thus, beginning from the most fundamental aspect of its design, the aptitudes of the MP3, an exemplary digital cultural object, are quite close to one of the "key slogans of the deep ecology movement" as proposed by Næss: "Increase the sensitivity to and appreciation of what there is enough of for all!" He argues this "fights against the confusion of real value with market price" and is "a way to maximize our ability to derive deep satisfaction from the goods of which there still are, or could be, enough" (Næss 2005: 202). The action of economizing the inputs required for aesthetic experiences, built into MP3 compression,[8] is paralleled by the central action of file-sharing in general: a

[8] "To make an MP3, a program called an encoder takes a .wav file (or some other audio format) and compares it to a mathematical model of the gaps in human hearing. Based on a number of factors- some chosen by the user, some set in the code-it discards the parts of the audio signal that are unlikely to be audible. It then reorganizes repetitive and redundant data in the recording, and produces a much smaller file- often as small as 12 percent of the original file size. The technique of removing redundant data in a file is called compression. The technique of using a model of a listener to remove additional data is a special kind of "lossy" compression called perceptual coding […] Perceptual coding sought out the shifting gaps within the field of bearable sounds. Masking and the

double maneuver to split market value from use-value by means of making cultural objects goods of which there are enough for all, ‘all’ being limited, it must be kept in mind, to those who have some access, directly or indirectly, to the technology which enables their use. This limitation places, for the time being, the digital cultural object somewhere between an object of which there still is enough and an object of which there could be enough.

The objection could be made that freedom of exchange and reproduction is too permissive of ‘bad’ or ‘negative’ cultural objects, information, or discourses. Such an objection contains several errors. It assumes the existence of a class of things which can be definitively said to have a negative value regardless of context, when it can only be said that any object or piece of information is valued in a certain way by a certain group of people from a certain discursive standpoint at a certain time. It is to see anarchic nihilism in the structure of the digital commons where there is actually a basic faith of liberalism, that of free deliberation producing positive results over time, alongside the embrace of diversity for its own sake that we see in Næss, as when he says:

> richness and diversity of life-forms contribute to a realization of these values and are also values in themselves. Richness means we have to have an abundance of life of all kinds (…) I can’t and I don’t have to justify that diversity and richness; plurality of life is good in itself (Næss 2005: 18).

theory of critical bands are probably the most important psychoacoustic concepts for building a perceptual coder. In the ear, louder sounds mask quieter ones with a similar frequency content. Auditory masking is the process of eliminating similar frequencies, based on the principle that when two sounds of similar frequency content are played together and one is significantly quieter, people will hear only the louder sound. Temporal masking is a similar principle across time. If there are two sounds very close together in time (less than about five milliseconds apart, depending on the material) and one is significantly louder than the other, listeners can only hear the louder sound" (Sterne 2012: 1-2, 21).

This valorization of the diversity of forms, in the realm of democratic deliberation, living systems, and digital cultural exchange, is arrayed against a fear of contagion often associated with mimetic behavior, including both copying and public deliberation (Boon 2010). Such concerns take the shape of fears of the 'virality' of destructive ideas and behavior, and the assumption that new technology provides a capacity for virality so enhanced as to place it outside the sphere of liberal deliberation. Yet the refusal of prejudgment, and the bringing together of high and low, is precisely what sits at the founding of modern literature and democratic politics (Rancière 2010: 154). Preemptory qualifications based on questions of how a system will distribute 'bad' or 'good' cultural objects and information will only reflect the valuations at a certain time by a certain group with the power to enforce parameters of exchange. Such moves would resemble earlier state and church attempts to control printing as a means of reproduction, including copyright (de Sola Pool 1983). They must be implicitly or explicitly based on the reestablishment of a stable relationship between speakers and proper speech. An ecological democratic project does require institutions that embody and enforce certain normative valuations. However, ecological norms address public *goods* and what is necessary for the continuation of the whole, and do not legislate what is '*good*' for the individual. The normative requirement necessary for a free digital commons is the same as Mouffe's norm for the public sphere in liberal democracy: consensus on "rules of the game." ICT networks could well play a part in the institutions of a green state "as a facilitator of ecological citizenship" (Eckersley 2004: 190) by providing the means for environmental information sharing and inclusive fora of environmental decision making. Here, however, I am more concerned with how the preeminence of a right to copy, exchange and receive over a right to own and control is 'ecological' to the extent that it prioritizes the richness and diversity of an 'ecosystem' of information and cultural objects over traditional property rights.

The nature of the MP3 as a quasi-commodity imbues it with more radical potential than online music streaming and other property-bound digital commercial projects, in which copyright holders and service providers entirely dissolve the recording as an object, thereby siphoning it away from the digital commons. This is demonstrative of the broader distinction between the digital commons and the use of digital communications technology in general. Internet music streaming services and digital content stores use the same network technology to even further dematerialize cultural objects, while adhering to and advancing the economic imperatives of informational capitalism and the cultural imperatives of postmodernism. The legal instruments designed to disable free exchange "mak[e] communal sharing practices illicit" while the commercially controlled services that take their place function as "technologies of individuation and isolation" (Burkart and McCourt 2004: 351), further enforcing the mandatory individualization Bauman sees as a fundamental feature of postmodernity. Rancière (2010: 79) argues that in the realm of conceptual art, dematerialization "meant that intelligence itself came to take the place of its products, implying a radicalization in the idea of private property." The digital cultural object, by becoming dematerialized enough to allow nearly limitless reproduction, but still preserving an identity as a discrete object, manages to become common property. It functions as a counter-commodity or un-commodity instead of succumbing to pure dematerialization. The digital cultural object as un-commodity is not simply a non-commodity; it bears the marks of its transformation from physical object and sensory experience, to commodity, and then to digital object.

Freely exchanged digital cultural objects can be used in any personal or group context, manipulated, re-appropriated and made a part of a wide array of communicative practices. Commercial services and objects restricted in their use by software code can only be used in ways permitted by copyright holders and service providers. This limits personal and group agency to fully explore

the place of specific cultural objects in a broader cultural conversation. The MP3 file or similar artifact still has a reality as an object, and can thus be the focus of an aesthetically-perceiving subject and serve as the symbolic material used by a communicative agent; when the object is dissolved in a stream, the aesthetic experience itself is commodified, and becomes an object to be acquired by an economically acting subject. We can see here how two uses of similar technologies can either follow the dominant economic logic that has accompanied their development, as in the move from commodification of aesthetic objects to the commodification of aesthetic experience, or drastically oppose that logic, with an alternative vision of "file swapping as a communal activity of consumption" (Burkart and McCourt 2004: 357).

The contradiction of file-sharing, which points to larger contradictions in the global economic regime, is that while it promises egalitarian access to cultural goods, it does not offer mechanisms of similar power for the provision of compensation for cultural production. Its method of improving the distribution of cultural goods by disconnecting access from compensation implicates the wider economic system for the injustices that arise from the discordant relationship between social value and the provision of necessary goods in a regime of relations defined by property rights and waged labor. That is to say, file-sharing networks demonstrate that those cultural goods which can be freely copied and exchanged over ICT networks, can be better provided, in a greater diversity, to a wider range of people, creating thereby a richer cultural space, by severing them from private ownership. In this way they suggest that the provision of material necessities through commodity exchange, under the primacy of property rights, inhibits the diversity, richness and equality of public cultural space. This presents the choice of reinforcing these limitations in order to preserve the preeminence of property rights, or working towards new systems for distributing the means to acquire material necessities. The point is not necessarily to remove the right of property ownership from the foundations of liberalism, but, in expanding upon liberalism in more

democratic and green directions, to recalibrate the weighting given to property rights, to the extent that they damage or threaten other freedoms. In the digital commons, property rights in nonrival goods stunts the growth of a free and equal communicative space. In the ecosphere, the right to property and the freedoms and incentives to employ that property threatens the stability, vitality, and continuation of the living systems that are a prerequisite for human and non-human freedoms of self-realization. The suggestive power of file-sharing points in the same direction as deep ecology, which aspires to provide all beings, including non-humans, with what is necessary to their flourishing, while increasing overall diversity.

The transformative potential of digital free exchange can be detected within the rhetoric of its zealous opponents. Andrew Keen, for example, blames the degradation of public institutions and public discourse on the challenge to the ability of copyright holders to control and profit from information and cultural objects. In describing the Oxford English Dictionary as "a book in which two plus two always adds up to four" (Keen 2007: 37) he invokes the mathematical certainty that was for Descartes the key to establishing the stable, hierarchical modern *cosmopolis*[9], and points to the way in which traditional liberalism treats the primacy of property rights as an institution which holds the entire human universe together. But, as Boon (2010: 102) states

> such desperate exaggeration, which accompanies the widespread production and exchange of "copies," regardless of aggressively enforced laws concerning copyright infringement, still suggests the diminished power of this taboo. The fact that the means of producing copies are increasingly available to larger and larger groups of people around the world instead reveals the taboo that protects and naturalizes capitalist production modes, in particular the myth of the naturalness of the commodity and of private property.

[9] This particular notion of *cosmopolis* will be elaborated upon in the next chapter.

The attempt to gather as wide an array of ills in the network society as possible in a framework in which they can be blamed on the freedom of reproduction is part of a crisis of copyright and property. This crisis of copying is "the manifestation of traces of some other economy, future, present, or past" (Boon 2010: 46).

3.3 The culture and politics of file-sharing

I will begin my discussion of the cultural effects of file-sharing, as a subset of the digital commons and the Internet, at the level of abstraction at which Postman (2005: 15) operates when he states that "our languages are our media. Our media are our metaphors. Our metaphors create the content of our culture." Writing in the 1980s, Postman was skeptical that computer technology would counter what he saw as the deleterious effects of television, radio and the telegraph, warning that

> a central thesis of computer technology—that the principal difficulty we have in solving problems stems from insufficient data—will go unexamined. Until, years from now, when it will be noticed that the massive collection and speed-of-light retrieval of data have been of great value to large-scale organizations but have solved very little of importance to most people and have created at least as many problems for them as they may have solved (*Ibid.*: 161).

Much of the benefit of information technology has indeed been centralized, and many of the solutions it offers could fairly be judged as of little importance. The networked implementations of computer technology that have spread from the province of large corporations to consumer use in the intervening decades do however deserve a closer analysis, on Postman's terms, with an eye to determining precisely how new media continue or break with the characteristics of the televisual regime.

This includes consideration of how the Internet is a *multimedia* medium in a way that television never was. On television, image, sound and text were in a stable, hierarchical relationship, with image dominant. On the Internet, there

are manifold, shifting configurations which variously privilege image, sound, or text, while combining them in novel ways. While image was preeminent in the televisual regime, it is less clear if computer networks have a dominant sensory medium, and text may again take on some of the roles it had in Postman's age of typography. By drawing distinctions between different configurations of media within networks, we can attempt to separate out, to the extent possible, the effects and potentials of subsets of networks, such as file-sharing networks and other institutions of the digital commons, from the overall aggregate effects of information technology. We can hope to thereby find points of agreement with the cultural critics of such technology while pinpointing the value of the digital commons.

3.4 Digital media and digital sense objects

On the difference between image and text, Postman states: "The universe offers no (…) categories or simplifications; only flux and infinite variety. The photograph documents and celebrates the particularities of this infinite variety. Language makes them comprehensible" (2005: 72). This is a useful starting point from which to analyze different media forms in the context of this study, as it is in accordance with Næss, who holds that

> there is no physical world with specifically physical content. There is a reality, the content of which we have direct contact with only through and in our spontaneous experiences. It is a reality of infinite richness. No dichotomies of fundamental character seem adequate to describe it. Distinctions between physical and mental "worlds," or between subjective and objective worlds, are not adequate for describing reality (Næss 2005: 582).

Næss and Postman both present an infinitely diverse universe which cannot definitively be said to contain any of the objects we ascribe to it, which are ultimately cognitive-linguistic constructs sculpting the material of sense experience. This congruence can serve as our basis for understanding the role of different sensory media in networks.

If language, in a multimedia environment, defines an institutional framework, and images celebrate the particularities of infinite variety, then sound functions to celebrate that variety in an alternate way, avoiding the claims about reality that photographs make, making instead the kind of abstract representation of reality which allows the consideration of unrealized possibilities. While diversity in the availability of both sound and image allows a richer appreciation of reality, sound suggests things beyond itself in a way image does not. Stated in more extravagant language,

> certain cultural forms are more copious than others: music, in particular, appears and disappears fleetingly, conjures the immanent vastness of the Net, constellates into infinite sonic chains, precipitates collective joy, is eminently portable, and resists being turned into a thing or property (Boon 2010: 63).

As network bandwidth increases, more and more activity is mediated through still images and video, instead of text and audio. If the central place of the televisual is detrimental to the public sphere, then the MP3, and music encoded in digital objects more generally, should be looked at not simply as a pioneering use of technology which succeeded because of efficiencies in storage and transmission, but as a potential ally of the typographic in protecting the public sphere from the prevalence of the televisual. While images, especially photography and film, correspond to the world as it is given, sound, especially in the age of electrification, has a unique ability to insert into the sensory field that which has no direct referent in the part of the sensory world which is generally taken to be given and natural. The sound of an acoustic instrument, when a listener hears it directly and sees it produced, invokes the materiality of the physical object which produced it. The sound which is encoded, reproduced, and especially created by electronic means, has no definite correspondence to something present in the world available to the eye. By making the unrealized audible, it opens a door to expressing the relation between the sayable and the *invisible*: that which is not yet the case or is hidden in the present, which is the heart of any project of using language to

propose alternate futures, including the ecological societies that are our concern here. Næss identifies a particular connection between music and the environment in the figure of a mountain-dweller he met early in his life.

> In the evenings he would talk incidentally about mountains, about reindeer, hunting, and other occupations in the highest regions. But mostly he would play the violin. It was part of the local culture to mark the rhythm with the feet, and he would not give up trying to make me capable of joining him in this. But how difficult! The old man's rhythms seemed more complex than anything I had ever heard! (…) From the outside the mountain way of life would seem Spartan, rough, and rigid, but the playing of the violin and the obvious fondness for all things above the timberline, living or 'dead', certainly witnessed a rich, sensual attachment to life, a deep pleasure in what can be experienced with wide open eyes and mind. (…) These reflections instilled within me the idea of modesty – modesty in man's relationships with mountains in particular and the natural world in general. As I see it, modesty is of little value if it is not a natural consequence of much deeper feelings, a consequence of a way of understanding ourselves as part of nature in a wide sense of the term. This way is such that the smaller we come to feel ourselves compared to the mountain, the nearer we come to participating in its greatness. I do not know why this is so (Næss 1989: 3).

In Naess' description of this encounter with the isolated mountain-dweller that he sees some connection between the facts of his living so close to the mountain and the dedication of the majority of his free time to violin playing. Part of the link between the aesthetic practice of music making and the deep, respectful relationship to the mountain is their common character as ways of dwelling in situations of inherent value. Relating to the aesthetic commons conjured by file-sharing might have a similar connection to the practice of cultivating deep, respectful relationships to global ecospheric networks. The lone violinist and the file-sharer can be seen as engaged in similar activities appropriate to different environmental contexts.

If it can be said that modern literature's "absolutization of style went along with the 'democratic' principle of indifference" (Rancière 2010: 156), with indifference again denoting the absence of prejudgment based on the notion of

proper forms rather than the absence of affect or import, then music's circumvention of verbal-rational meaning construction, into an even purer space of style, is an even greater instantiation of "democratic indifference." The MP3 is a deepening of the aesthetic object as "that which resists both conceptual determination and the lure of consumable goods" (Rancière 2010: 173).

3.5 Typography and the public sphere

Postman finds his ideal typographical regime in the United States of the 17th century through the first half of the 19th. We can see, in his description of that society, much that is reminiscent of the digital commons. The level of discourse in the typographical regime is supported by an egalitarian literary culture, in which reading is widespread and printed material is common. This was made possible by technologies of reproduction, access to an existing body of cultural objects (in this case, the literature of England) and a lack of copyright protection, which accelerated and expanded the distribution of works. This typographical culture included not just books (domestic, imported and pirated) but newspapers and pamphlets, the latter of which "are circulated for a day with incredible rapidity and then expire," as de Tocqueville described them in 1835 (Postman 2005: 37). This well describes the written material available through digital networks, which circulates (and is replaced) even faster, spreads further, and intermixes with ever more cheaply reproducible works from a wider range of times and places. While the experience of computer networks for many people may be mediated more by images, and thus retain many features of the televisual regime, the network configurations and institutions in which text is the primary medium have the same characteristics as Postman's historical ideal of a typographical society. This can certainly not be said of television. The network ideal could easily be put in the terms Daniel Boorstin uses to describe colonial American literary culture: "its center was everywhere because it was nowhere" (Postman 2005: 34).

Of Postman's complaints regarding the telegraphic and televisual successors of the typographic regime, the one most relevant to text-centered usages of contemporary ICTs would be that further technological developments have made *too much* text available, on too many diverse subjects, surpassing the ability of readers to process, comprehend and use the amount of information they are presented with. This is his general complaint about text after the development of the telegraph, the first of the electronic communications technologies: that the ease of transmission creates a surfeit of "irrelevant" material. As a result, public discourse is conducted in "the language of headlines – sensational, fragmented, impersonal," a non-linear stream of disconnected messages, putting the responsibility for deciphering meaning on each individual reader. Postman believes that this creates an image of the world as "unmanageable, even undecipherable" (Postman 2005: 70). Yet more widely distributed responsibility for the active creation of meaning may also be advantageous for the further democratization of public discourse. Contemporary network technologies (at least where they have not been centralized by corporate or state actors) give individuals more chances to determine what information they receive from the ever-growing stream, and, more importantly, to find, join and create interpretative communities to judge the quality of information, and to decipher and create meanings (Dahlberg 2007).

If "a clock recreates time as an independent, mathematically precise sequence (…) writing recreates the mind as a tablet on which experience is written (…) [and] the telegraph recreates news as a commodity" (Postman 2005: 27) then how does the digital commons recreate cultural objects? In making cultural objects goods of which there are enough for all, the digital commons recreates cultural objects as a commonly held inheritance, 'owned' as much by its users as its creators, part of an historical, ever-growing human heritage, the interconnectedness of which is made concrete through a common means of access. The digital cultural object is unmade as a commodity, reformed into

something which, like non-human entities in Eckersley's (2004: 101) model of a green state, is part of a whole to be held in stewardship. File-sharing brings together the experiences of 'creative destruction' and preservation: in digital reproduction, transmission and storage, the old is buried by the ever-increasing onrush of the new - and yet is still available to be discovered intact beneath the deluge. Each object is part of an ecosystem both wild and preserved, available to be used as the focus of aesthetic appraisal and enjoyment, and as the material of public communication.

The politics specific to file-sharing networks follow from the values that motivate activity on the networks and the material basis that makes those activities possible. File-sharing networks value the distribution of as many cultural objects as possible, as efficiently as possible, in a form which allows as much freedom as possible in using those objects. Discussing the digital commons, Goldberg notes that

> what is often theorized as a removal or liberation of economic constraints limiting the spread of cultural content is more accurately a shift of economic constraints from relations of exchange to relations of transmission; from economically managing discrete units of culture to managing their flows on a massive scale. Put another way, transmission has begun to displace exchange as the primary form of managing economies of culture, and of collecting the value produced through cultural activity (Goldberg 2011: 745).

On the Internet, this shift from an economy of exchange to an economy of transmission has not led inevitably to decentralization or democratization, especially in the 'collection of value' of cultural activity, as a few large private actors (companies such as Google, Facebook, and internet service providers) have come to control many of the mechanisms of transmission. Still, there is an important difference between an economy of exchange and an economy of transmission. The means of transmission are much closer to being a natural monopoly, akin to public utilities, and therefore better candidates for public or collective ownership and control. Indeed, the vitality of public discourse in

Postman's ideal typographic regime owes much to the creation of a publicly subsidized economy of transmission, in the form of the United States Postal Service. Collective control of an economy of exchange would require collective decisions about what cultural objects and information are to be produced, inviting all the failings of a centralized command economy. Such control of production could easily work against the key values of diversity of content and freedom of use. The digitization of reproduction makes cultural objects something "of which there is enough of for all" and enables the switch to an economy of transmission. The infrastructure of transmission in file-sharing networks efficiently uses the existing technological capacity of users – content is stored by each participant, instead of a central actor, and sent using their existing bandwidth – and any additional network infrastructure that may be necessary is treated as a collective cost and a collective good. This network infrastructure combines the efficient use of the computing resources of individual users with a few central points which function as appropriate points for political action and ecologically conscious planning. For example, the move to an economy of transmission shifts a large portion of resource usage to a few key points, such as server farms and central routers. Most of the energy used by these server farms is for air conditioning, although better design can drastically reduce the amount of energy required for cooling, and further, reuse the waste heat produced (Greenpeace 2012). These central points are easier to shape to the demands of ecological efficiency than the wide range of locations involved in economies of exchange.

A file-sharing network is, then, an implementation of technology in which shared goods are used to pursue shared values, in an egalitarian and resource-efficient way. At this level of description, it is quite similar to the institutions required by an ecological society.

3.6 Subject-formation and atempestivity

The subject of file-sharing networks (i.e. the file-sharer as a subject) exists in an intermediate state. Placed within postmodernity's conditions of mandatory individuation, the file-sharer pursues an activity that is in many ways akin to the accumulation of commodities. Yet due to the structure of the network, this activity is transformed. The individual commodity-acquirer is now also constructing the framework of a commons. The consumptive activity is a dual gesture, filling the commons instead of emptying it. It is this combination of commodity consumption and commons-construction that places the file-sharer in a perhaps uniquely productive position in the context of a commons-destroying and commodity over-producing global economy.

Free digital exchange gives a virtual materiality to the type of "common space" created by a museum, wherein "representations are disconnected from a specific destination (…) all offered to the same 'indifferent' gaze" (Rancière 2010: 139). The digital commons has a museum-function in which the free relationship between objects and their perceivers is matched by a corresponding freedom of perceivers to train that 'indifferent' gaze (a 'gaze' which also includes the auditory) on any and all objects. The gesture of the file-sharing network is the building of a museum atop a market, to enclose what were commodities in a common space that recreates them as quasi-commodities. This re-enclosure initiates the transformation of participants in the networks from consumers enmeshed in commodity relations to aesthetic and political subjects. If we accept that "'aesthetic' designates the suspension of every determinate relation correlating the production of art forms and a specific social function" (Rancière 2010: 138) then the free exchange that occurs in file-sharing networks appears as a continuation or deepening of the aesthetic regime, in that it suspends the relation between the production of art forms and the social function of commodity exchange, of the production or capture of exchange value. Since the evaluative role of museums is deeply implicated in the contemporary art market, it may be that free digital exchange

is not only an expansion of the museum function but currently its fullest incarnation. That these digital objects continue to have a life as commodities in the larger economic networks is part of the digital commons' ambiguous and critical position. The relevance of the museum function of the digital commons in the formation of an ecological society is precisely in manifesting foundational liberal freedoms which are to be expanded in more democratic and ecological directions. If the genesis of modern democratic freedom is intertwined at the root with the modern aesthetic freedoms of the mute letter of literature and the space of the museum, then part of my intention here is to locate the contemporary point from which new freedoms might grow. If aesthetic value arises in a relational field, then democratic aesthetics requires not only the freedom of the subject, but freedom of access to aesthetic objects.

As Rancière states, the aesthetics of politics "lies in a re-configuration of the distribution of the common through political processes of subjectivation" and the politics of aesthetics "lies in the practices and modes of visibility of art that re-configure the fabric of sensory experience." The political implications of art are not limited to the explicit political intentions behind individual works. Instead, "the theatre, the museum and the book are 'aesthetic' realities in and of themselves… specific distributions of space and time, of the visible and the invisible, that create specific forms of 'commonsense'" (Rancière 2010: 140-141). If categories as disparate as 'museum' and 'book' are aesthetic realities, we can attempt to ascertain the aesthetic reality specific to the 'digital commons,' the 'file-sharing network,' and the 'digital cultural object,' and the ways they reconfigure sensory experience, the common, and political subjectivation. In other words, the democratic power of the modern aesthetic regime was not simply in the freedom to express democratic sentiments, but was also tied to the freedom in the very form of relationship between subject and object, expression and reception. Thus, Flaubert could have an aristocratic disdain for politics while conservative critics saw his prose as "the embodiment of democracy" (Rancière 2010: 155). Similarly, the ecological

power of the digital commons is not primarily in the freedom to communicate ecological sentiments (although it includes this) but in how it redefines relationships between subject, object, expression and reception. The promotion of information and cultural objects which encourage an ecological understanding is secondary to a mode of creating, communicating, and experiencing cultural objects which leads to an understanding of the cultural commons as a kind of ecosystem, to be best managed following ecological principles. Experiencing the digital commons as a participant, speaking and listening in a variety of ways, instead of as a consumer, while following principles of stewardship instead of ownership, creates a different kind of commonsense and a different type of subject. To establish a digital commons, such as a file-sharing network, as an ecological common space is to position a renewed and expanded conception of freedom of expression against encroachment by property rights. It is ecological in that it redefines freedom of expression not simply as the right of an individual to engage in speech acts, but the freedom to occupy positions as sender, receiver and transformer within cultural milieux. Thus, in the creation of a new eco-democratic commonsense, the digital commons takes a role similar to that of modern literature and the museum in the creation of the modern democratic commonsense.

We can sketch a model of the file-sharer as a subject by considering file-sharing as a dissensual practice. First, we should engage with Rancière's (2010: 76) notion of 'communism', defined as the transformation of freedom and equality "into a sensory reality, embedding them in the forms of an existing common world." Under informationalism, "what contemporary capitalism essentially produces – rather than goods for private appropriation – is the network of human communication, in which production, consumption and exchange are no longer separate but join together in the same collective process" (Castells 2009a: 17). Thus

> it can be claimed that communism already exists within, and thanks to, new forms of capitalist production… because capitalist production

> produces fewer and fewer material goods, and more and more services or means of communication; and because its production is increasingly less material, it tends to shake loose its status as appropriated commodity and deceptive fetish (Rancière 2010: 77).

In this view, capitalist production is increasingly identical to the production of the global network, and thus "collective intelligence." While most would not use the term 'communism,' this is, in its broad outlines, the argument of the most outspoken techno-optimistic advocates of the global network. For both the advocates of "open source government" and traditional communists, "the necessity of communism has been predicated on the impossibility of politics" (*Ibid*.) In different settings, this implies either a bureaucratic 'dictatorship of the proletariat' or a network-enabled technocracy, in which participants in the network contribute to improving the functionality of the network, but do not determine its aims and goals (Morozov 2013a)[10].

Rancière (2010: 79) diverges from this view, however:

> If there is a *communist* power of intelligence, it is not cyberspace, but instead the capacity possessed by those who make the computer parts and piece them together to be able to have their say, not only about computers, but about all the issues of collective life.

Likewise, the digital commons, as an expression of "collective intelligence" and of a common cultural inheritance, is not identical to the Internet, or the totality of global informational networks. It is, rather, a particular arrangement of technology used to make a particular claim about collective life, specifically the extent to which cultural objects are to be held as common property, and the extent to which the free distribution of cultural objects is part of the freedoms of expression and communication, as elements in the creation of webs of

[10] Accepting Rancière's view of communism, as a movement grounded in the identification of aesthetic freedom as "the principle of a new revolution to be realized in the materiality of the lived world" (Rancière 2010: 81) has other effects. It complicates the position, following Benjamin, which identifies the aestheticization of politics with the threat of fascism. Rancière's interpretation of the historical roots of communism places the aestheticization of politics at the foundation of the critical tradition Benjamin was a part of. It should be noted that Rancière's alternative formulation does not do away with aesthetics - it merely holds aesthetic freedom as an ideal to be pursued in the knowledge that it can never be fully realized in material conditions. There is, then, no real, final separation between the political and the aesthetic.

meaning. File-sharing networks occupy a unique intermediate position. While they are unable, and do not seek, to holistically transform "the materiality of the lived world" according to the principle of aesthetic freedom, they do establish a certain digital-materiality which corresponds to the principle of aesthetic freedom, by creating institutions for the free exchange of any and all digital aesthetic objects. Existing parallel to systems which operate under the principles of ownership and commodity exchange, file-sharing realizes Rancière's alternative principle of an *intempestive* 'communism' or implementation of collective intelligence. "To be *intempestive* means at once that you do and do not belong to a time" (Rancière 2010: 82). An *intempestive* democracy is

> a democracy to come (…) not a democracy that will come in the future, but a democracy emploted [sic] within a different time, a different temporal plot. The time of a 'democracy to come' is the time of a promise that has to be kept even though - and precisely because – it can never be fulfilled (Rancière 2010: 58-59).

Mouffe similarly defines her democratic project as "a democracy 'to come', as conflict and antagonism are at the same time its condition of possibility and the condition of impossibility of its full realization" (Mouffe 1993: 8). The digital commons is one form of *intempestive* communism, in that it establishes a form of abundance and distributive equality that can never fully be realized in the world of material, rival goods, but that can still serve as a model and inspiration for further democratization of the economic sphere. Opposing the dominant implementation of technological networks according to the principles of informational capitalism, file-sharing networks give a substantial existence in the lived world to the immaterial principles of freedom and equality. It is in this way that file-sharing becomes a dissensual activity which overlays one world atop another.

Maintaining a division between how rival and non-rival goods are treated, between the physical and digital, with the former having a price and the latter

being free, is to create a realm of abundance on one side and a realm of scarcity, and therefore economizing, on the other. The latter becomes the arena for a moral order based in satisficing and conscientious limitation, as one mechanism through which to achieve the very real need for putting limits on the growth of material consumption and for decreasing the adverse ecological impacts caused by this consumption. This digital abundance must be thought of not simply in terms of an overflowing amount but in the opulence of possibility and potential diversity in the exponentially increasing number of different combinations and paths that can be made with and through the cultural materials of the digital commons. The commons then becomes the space for the "collective dream of free access to an infinity of things" that currently lies "below the surface of contemporary consumer culture" and fuels the mimetic impulses which drive marketing and the consumption it depends on (Boon 2010: 44). It becomes a site in which the "ecosophical lifestyle appreciates opulence, richness, luxury, affluence" (Næss 1989: 88).

Ranciere's power of collective intelligence, as the power of those who arrange computer parts to have a say in all matters of life, is radically different, and articulated in opposition to, 'collective intelligence' as understood by a Silicon Valley technology theorist such as Tim O'Reilly, and the corporate entities who put that understanding into practice, for whom collective intelligence is simply the aggregation of information held by those connected to information networks, to be applied by central technocratic entities without a process of collective decision making about how that collective intelligence is to be used. This is collective intelligence purely as *collected* intelligence, an "architecture of participation" which

> amounts to no more than a simple feedback session with whoever is running the system. You are not participating in the design of that system, nor are you asked to comment on its future. There is nothing "collective" about such distributed intelligence; it's just a bunch of individual users acting on their own and never experiencing any sense

> of solidarity or group belonging. Such "participation" has no political dimension; no power changes hands (Morozov 2013a).

This technocratic form of collective intelligence, unlike the dissensual manifestation in the digital commons, does not require or encourage the creation of political subjects. This distinction is part of what distinguishes the digital commons from the aggregate of all ICT networks. It is not simply the sum total of all information and other digital material which can be accessed by individuals through computer networks; like the public sphere, it is a specific form of relations between people, mediated by symbols.

3.7 Digital dissensus

The parallel existence of file-sharing networks, of which the most concrete aspect is their continuing illegality, their designation as 'piracy,' puts on display the dissensual nature of file-sharing as an activity. File-sharing makes several gestures which superimpose two worlds atop each other. The file shared, the digital cultural object, manages to be what it is by virtue of being what it is not. It can only resist commodification by preserving its status as a discrete object which is related to, and experienced as, a commodity. This allows it to resist complete dematerialization, which would allow the commodification of aesthetic experience, as in commercially-controlled media streaming. Its intermediate status as quasi-object allows its free reproduction and exchange, liberating it from the logic of exchange value. File-sharers claim rights they do not have by showing that they in fact possess them. The illegality of sharing demonstrates that the institutions of property ownership do not provide for the right to treat cultural objects as a commonly held inheritance, while the actuality of free exchange demonstrates that they can in fact be treated as such (Rancière 2010: 57). File-sharing exists in the space opened up by the tension between the actual development of informational capitalism and the possibilities it offers. The digital commons, like Rancière's *demos*, exists as a surplus. It is not merely the aggregate of all cultural objects and information that is or can be digitized. The digital commons exists as the

possibilities that arise due, and supplementary to, that aggregation. These possibilities are present because, once cultural objects are seen as elements of communication, the digital commons does not stand as a separate sphere, but diffuses through all spheres of communicative activity. It is a freedom of access to a common body of language – textual, auditory, and visual – given to everybody and anybody at all. The digital commons goes forward in fulfilling the promise of the 'mute letter' in breaking down the hierarchy of representation. Where once there was a stable relationship between speakers, listeners, and what was to be spoken, the mute letter introduced by modern literature "was the letter that spoke to anybody, without knowing to whom it had to speak, and to whom it had not (…) a letter that spoke too much and endowed anyone at all with the power of speaking" (Rancière 2010: 157). The digitization of the cultural object, the expansion of reproduction beyond text to image and sound, allows the mute letter to speak to multiple senses, and to endow more speakers with the ability to speak in more ways.

"Literature [as the] new regime of writing in which the writer is anybody and the reader anybody" arose at the same time that cultural production entered a regime of commodity exchange. Yet the logic of this regime, and its technologies of reproduction, begins to reestablish "the power of a social hierarchy based on the capacity of addressing appropriate kinds of speech-acts to appropriate kinds of audiences" (*Ibid.*), no longer between general and troops, preacher and congregation, orator and audience, but between a culture industry and a mass audience. The network of digital cultural objects revivifies the mute letter. In its mixture of cultural materials, it advances towards the modern ideal of

> representation of heterogeneity and difference, of simultaneity and synchrony, in a world where (…) 'everything should sound simultaneously' (…) 'one should hear the bellowing of the cattle, the whispering of the lovers, and the rhetoric of the officials all at the same time' (Harvey 1992: 263).

Clearly, the material necessities of living, from daily meals to ecosystem services, cannot be digitized in order to be freely reproduced and exchanged. This prevents file-sharing networks from providing a model after which to wholly transform "the materiality of the lived world." Yet the digital commons does not simply function as a fragile symbolic instantiation of the principles of freedom and equality. Participation in the digital commons is also part of lived experience (for those with access to the necessary technology and technological competencies) which can display these principles while also substituting for more materially-intensive activities, the cost of which threatens the ability of all, human and non-human, to access those resources which are biological necessities – food, water, medicine, shelter, and all the processes grouped under the label of 'ecosystem services.'

To clarify the connection between a commons of aesthetic objects and politics, we can return to Mouffe's notion of democracy as a symbolic mutation, and its connection to the phylogeny of human cooperation. As cooperation moves beyond the direct identification of interests in small groups, it becomes regulated by more abstract norms and group identities. These norms exist not only internally in group members, or recorded in cultural artifacts, but in a common symbolic space maintained and modified through practice. This symbolic space becomes the basis of both limitations and possibilities for concrete political action and concrete cultural expression. And such concrete acts and objects follow from particular 'mutations' of the symbolic space, particular arrangements of the sensible, such as democracy or the aesthetic regime. Politics and art do not of course exist only in a space of abstraction, but they do proceed through a discursive relationship with the symbolic structures which make human sociality possible. A mode of reproduction and transmission of cultural objects which manifests this symbolic space as a commons, by way of common availability, brings into focus the common nature of the symbolic space which both cultural production and the maintenance of economic structures depend upon.

What I would like to explore now is how this understanding of the political and aesthetic's relationship to the commons can be expanded to include a more general understanding of society's relationship to the non-human world, and the particular form such an understanding may take in a network society.

4. Society and Self in the Anthropocene

In this chapter I will begin to elaborate on the conceptual implications of the network society's alteration of the non-human environment on a global scale. From there I will reformulate and expand the notion of the ecological Self in a network context.

4.1 The network society at the dawn of the Anthropocene

The Anthropocene[11], as a designation for a distinct geological epoch initiated by human activity, has not yet been officially adopted by the major associations in the discipline of geology. It may be years or decades until such a decision is made, but this has not prevented the concept from being taken up in a variety of other fields. Having a single word with which to invoke the scale of anthropogenic alteration of the non-human world has proven useful in the attempt to understand and describe the reach of civilization's impacts – and how those impacts change the character of relations between humans and non-humans. The concept of the Anthropocene can be of great help to us in understanding the network society as a context for the network Self. Anthropogenic climate change, habitat destruction and resource depletion provide the impetus to expand our understanding of the global network society and the conceptual space in which to do so. For the notion of the Anthropocene asserts the agency of the human species as an autonomous force at the geologic level at the same time it asserts the dependence of the human species on certain global conditions. While the dawning of the Anthropocene evokes the instability and sensitivity of the ecosphere in its susceptibility to human influence, it also displays its unity in common vulnerability. The

[11] The term Anthropocene was first proposed by Crutzen and Stoermer in 2000. (Chakrabarty 2009: 209). While human land use may have been causing significant ecosystem changes since before the invention of agriculture (see e.g. Ellis et al. 2013) , I will here be considering the Anthropocene as definitely beginning with the burning of fossil fuels, as it is here that the possibility of unprecedentedly rapid change of the entire global system first truly presents itself.

Anthropocene is the appropriate analytical context for the network society because the threat of climate change is serious enough that all contemporary phenomena should be judged by their relationship to it, and because the network society is the current apex of several centuries of fossil-fuel powered globalization; thus the Anthropocene and the network society have a closely intertwined lineage. The inception of the Anthropocene displays the full extent of the connectivity which serves as the organizing principle of the network society. The Anthropocene is a stage on which to locate the already-existing global networks of cause and effect that predate the economic, communicational, technological networks of the network society. The world of the Anthropocene sees the network society meeting itself. In as much as the processes of economic development that shaped the network society also formed the conditions of the Anthropocene, the network society occupies a world of its own creation. Yet the world's susceptibility to such alterations shows the network society its own principles external to itself; the network society becomes the world as it forms the Earth in its image, and its image to the ecosphere. For Castells, the compression and reorganization of time in the network society means that "a secular biological rhythm has been replaced by a moment of existential decision" (Castells 2009a: 481). While Castells is referring here to how the untethering of life events (above all, procreation) from stable chronological patterns affects individual experience, his statement could just as well refer to societies or the human species itself. Historical rhythms, including the modern notion of progress, are suddenly replaced with a moment of existential decision regarding how to respond to human impacts on the ecosphere.

Nigel Clark asks us to put anthropogenic climate change in the historical context of previous climactic shifts that have affected our species, as a way of "thinking through the human in terms of a constitutive vulnerability to forces beyond its control", giving us

> the idea of a fundamental exposure or radical passivity of the self [that] obliges us to consider (…) all that a body owes – not only to those with whom its linkages and alliances can be established, but to those who are no longer with us, those with whom we can never be together (Clark 2010:47).

The notion of fundamental exposure will be an important element in constructing the network Self, as well as in building a more expansive notion of communicative freedom that works to incorporate additional freedoms of the listener – the exposed – with the traditionally instituted freedoms of the speaker. Finally, network society and Anthropocene both call for a consideration of what is owed to, and thereby inherited from, those who are no longer with us, and how this inheritance is to be shared, invested, or tended. This includes the cultural inheritance which fills our aesthetic world and informs the material structures of our economy. It includes the inheritance of the environments which made our civilization and our biological being possible. Integrating our consideration of these different aspects of a common inheritance is a central aspect of, first, rooting the network society in the context of the Anthropocene, and later, beginning to establish the idea of the network Self.

To analyze the network society as placed in the Anthropocene is to bring together the two essential shortcomings of the contemporary global economy, which are contradictory yet constituted in part by each other – failures of managing abundance and failures of managing scarcity. New economic efficiencies produce unemployment and wasted human capital, with the maldistribution of surplus financial resources leading to problems of over-accumulation and contributing to periodic economic crises. The same economic system cannot properly integrate the abundances created by digital reproduction and transmission, with copyright holders and owners of physical and software infrastructure working to create artificial scarcities. At the same time, the global economy has great difficulty addressing the reality of scarcities in the living systems of the Earth. Comparing and integrating the

principles of file-sharing networks with the principles of deep ecology is one approach to addressing the interrelated deficiencies regarding both abundance and scarcity.

Chakrabarty (2009: 210) asks: "has the period from 1750 to now been one of freedom or that of the Anthropocene? Is the Anthropocene a critique of the narratives of freedom?" I believe the correct response is to say that this period *is* the Anthropocene, *because of certain definitions* of freedom and their uses, and that narratives of freedom must be critiqued to determine what conceptions of freedom initiated the Anthropocene and what conceptions of freedom are better suited to it. Such a redefinition will be part of what Clark names

> an opening up of the political to the exorbitant energies beyond its normal bounds (…) [which] calls not only for political and economic trajectories apposite to longterm survival, but also for the vitalizing charge of new affective intensities (Clark 2010: 47, 49).

4.2 The network as organizing metaphor

In discussing the socio-cultural correlates of modern industrialism, Bauman makes the claim that

> the Fordist model was (…) an epistemological building site on which the whole world-view was erected (…) The way human beings understand the world tends to be at all times praxeomorphic: it is always shaped by the know-how of the day, by what people can do and how they usually go about doing it (Bauman 2006: 56).

We may expect, then, that postmodern informational capitalism brings with it its own world-view, and, if informational capitalism takes the shape of a network society, this world-view will be informed by the idea of the network. Communications media, which, following Postman, serve as the metaphors with which we create the content of our culture, are increasingly networked. Flusser (2005: 7) suggests that the network image is increasingly used in scientific fields from ecology to molecular biology and atomic physics. This

may be seen as an effect of, and contributing factor in, the shift toward a praxeomorphic network world-view. Toulmin traces a tradition of constructing images of society using scientific and technological paradigms back to the roots of modernity – a modernity fundamentally shaped in many ways by the technology of printing (Eisenstein 1968). We can see, at the genesis of that modernity, a situation very much like that presented by the dawn of the Anthropocene.

For Toulmin, modernity begins with a turn away from Renaissance humanism and towards Cartesian rationalism and a "quest for certainty" as a response to the chaos of the European religious wars of the 17th century. Proponents of a strict rationalism hoped to find a way out of violent disagreement by establishing methods to discover universal, indisputable truths. In pursuing these truths, rationalists

> looked not just for a way to give knowledge the certainty that Montaigne and his fellow skeptics denied it: they also wanted to build up a fresh cosmology from scratch. The unique crisis that Donne intuitively recognized in 1611 – collapse of cosmology and epistemology simultaneously – evoked from the New Philosophers an equally unique reply: if everything in general is under threat at one and the same time, everything in general must be restored and underpinned in a brand new way (Toulmin 1992: 83).

This required the founding of a new *cosmopolis*, a system of knowledge which fundamentally unifies the laws which order both nature and society. The resulting *cosmopolis* consisted in a

> Newtonian view of a stable system "kept in order" by universal and unchanging central forces. In the social realm, the Newtonian view called for stable institutions, unambiguous class structure, centralized power, and defense of the state's sovereign autonomy from external interference (*Ibid.*).

Such a modern cosmopolis has "three foundations: certainty, formal rationality, and the desire to start with a clean slate" (*Ibid.*: 183) and is based on an image of nature as "a stable physical system of bodies moving in fixed

orbits around a single, central source of power – the sun and the planets as a model for the Sun King and his subjects" (Toulmin 1992*:* 184). Social orbits were defined by the newly emerging classes, replacing the decayed feudal system.

> When religious or moral normative certainties were shattered by the corruption of religious institutions, calculation emerged as a privileged source of unquestionable certainties (…) the organization of activities and of life itself in terms of an accountancy calculation was quintessentially an ordering through which man, on the scale of his own life, came nearer to the work which God (the 'great watchmaker') accomplished on a cosmic scale. Economic rationality functioned as a substitute for religious morality: through it man attempted to apply the eternal laws which governed the universe to the predictive organization of his own affairs. Its aim, beyond the material ends it gave itself, was to render the laws of human activity as rigorously calculable and predictable able as those of the cosmic clock's workings (Gorz 1989: 112).

The dawn of the Anthropocene and the threat of ecological crisis it denotes signal a cosmopolitical inversion. In the 17th century, social vulnerability to instability prompted a search for laws of stability in the non-human world. Today, the system of economic development which is a product of modern rationalism has led to postmodern cultural instability, but further and more essentially, has revealed a vulnerability to instability in the ecosphere. Now, in a reversal of the founding of modernity, instead of searching for fundamental structures outside the human which can be brought to bear on society, human civilization has revealed unstable structures in the non-human world. Ecology is an inescapable paradigm for a species that has discovered interdependence and connectedness in the ecosphere by means of altering it.

One response to this inversion is to build upon the complicated instabilities of postmodern society in order to understand its place in a non-human world newly revealed as unstable. Toulmin sees much of the work in dismantling the old rationalistic modernity as already done, and the way forward in "an

ecological perspective [that] emphasizes (…) differentiation and diversity, equity and adaptability" (Toulmin 1992: 194).

> An ecological cosmopolis may thus avoid the objection to which the earlier, astronomical image was subject: viz., that it is arbitrary and oppressive in its effect. Biology provides less constricting analogies for thinking about social relations than physics did. In the organic world, diversity and differentiation are the rule and not the exception, while the universality of physical theories is rare. Different ecosystems or food chains, for instance, may coexist within a single habitat, without one species establishing dominance over all others; and the measures to maintain a balance between species vary from case to case. If an image of "central forces" and "stable equilibria" made the modern cosmopolis oppressive, an ecological model opens up the possibilities for diversity and change, and so can be emancipatory (*Ibid.*: 195).

The network, existing as both abstraction and technological reality, is thus doubly available in constructing a new cosmopolis.

While Castells' analysis of contemporary informational capitalism suggests the extent to which the network has already been established as the primary social structure, in his view, the network society is also "increasingly structured around a bipolar opposition between the Net and the self" (Castells 2009a: 3). This is because "elites are cosmopolitan, people are local (…) the space of power and wealth is projected throughout the world, while people's life and experience is rooted in places, in their culture, in their history" (*Ibid.*: 446). To move from the network society to an ecological society requires moving past this central conflict by reconsidering and altering how both the net and the self are defined and constituted. Castells sees this process already under way, as for example in the transnational counter-globalization movement, "a network of identities and interests" (Castells 2009b: 162) representing "a networking, decentered form of organization and intervention, characteristic of the new social movements, mirroring, and counteracting, the networking logic of domination in the informational society" (*Ibid.*: 427). The way forward is not an exodus from or a sabotage of global society's networks, but a reconfiguration and redefinition of those networks from within. This is a

reprise of the way in which counter-hegemonic political movements of the industrial era reflected economic structures, when

> mass political parties, which characterized the political left of the industrial era, were modeled upon the experience of mass social movements, such as the labor movement or the peasant movement, with their organization in chapters, local committees, and delegated, federal structure (Castells 2009b: 115).

On another level, action within networks, and using the structure and concept of the network, is necessary because the goal of a movement toward an ecological society must be to consider both their own networks and the "networking logic of domination" as being set within an ecological network from which opting-out is impossible. Devolution or abandonment of techno-economic networks would still leave place-bound people connected to the ecospheric network and vulnerable to forces that operate on an ecospheric scale. Solutions to a problem such as anthropogenic climate change must take place at a global level; local solutions do not exempt anyone from this requirement.

The path from the network society to the ecological society is a space of convergence from many directions. Casting it as a space of equivalence (in Laclau and Mouffe's sense) requires drawing comparisons between past movements, present situations and future imaginaries, and between the networks of information that feed the global economy and the networks of information that describe the ecosphere. The place of the network image in the movement towards an ecological society can be seen in more depth by looking at its roles in Eckersley's (2004: 5) proposition "of the state as a crucial 'node' in any future network of global ecological governance."

4.3 Networks, government and communicative justice

Contemporary networks of political and economic power, constructed and maintained via symbols, are made possible by an array of information and communications technologies, and consumer applications of these

technologies play an expanding role in the lives of an increasing number of people, in all socio-economic strata, around the world. While information processing may be what drives informational capitalism, new communication technologies are also necessary for flexible production to become globalized. It is the communicative aspect of this technology, before its information-processing ability, that most people experience more directly in their day-to-day lives. In building upon the networks of capital and technology towards more democratic and ecological networks, we may look to the communicative element of such alternate visions of society, in light of the emphasis on communication within the current network paradigm. To begin such an exploration, I will look at the proposals of Eckersley (2004) in *The Green State: Rethinking Democracy and Sovereignty* and Plumwood (2002) in *Environmental Culture*. Eckersley's green state is founded on the idea of communicative justice, and Plumwood's environmental culture is based in an ethics of communication.

Eckersley and Plumwood converge on a vision of environmental politics centered on a public sphere which institutes deliberative and communicative equality. Eckersley describes "the vantage point of critical political ecology" as

> one that seeks to locate and incorporate the demand for social and environmental justice in the broader context of the demand for communicative justice. By environmental justice I mean, first, a fair distribution of the benefits and risks of social cooperation and, second, the minimization of those risks in relation to an expanded moral community. By communicative justice I mean a fair/free communicative context in which wealth and risk production and distribution decisions takes place in ways that are reflectively acceptable by all "differently situated others" (or their representatives) who may be affected (Eckersley 2004: 10).

It should be noted that communicative justice is a prerequisite of social and environmental justice in this formulation. For Plumwood (2002: 95), social and environmental justice is a necessary indicator of communicative justice,

arguing that “if a process of political communication is working well, if it is inclusive and open in a real and not just formal way to all, it should be articulating the needs of all communicants and thus producing a certain kind of distributive product.” For Eckersley (2004: 140), communication is necessary to develop shared understandings according to which action can be taken, including, through the process of public deliberation itself, a sense of interdependence. Deliberation should be open to all humans and non-human beings affected by risk-generating social decisions. Eckersley posits that such inclusion would reduce the likelihood that a society would pursue environmentally risky behavior, by expanding the range of subjects toward which that society held responsibilities. Plumwood similarly points to the necessity of “political institutions which encourage speech from below and deep forms of democracy where communicativeness and redistributive equality are found across a range of social spheres” (2002: 65). Since the effects of ecologically destructive behavior will generally be felt first and most strongly by the socially disadvantaged and non-humans, this “below” provides an indication of the intensity and scope of those effects.

How would communicative justice be established in the institutions of an ecological society, and how do those institutions and concepts relate to the digital commons as it exists today? Eckersley (2004: 140) proposes, on a general level, that a green state would feature constitutional provisions to “facilitate a robust ‘green public sphere’ by providing fulsome environmental information and the mechanisms for contestation, participation and access to environmental justice.” Plumwood (2002: 65), more broadly, calls for “institutions which encourage speech from below and deep forms of democracy where communicative and redistributive equality are found across a range of social spheres.”

Clay Shirky’s description of the Internet as a space which “allows people to privately and publicly articulate and debate a welter of conflicting views”

(Shirky 2011: 34) presents it as a space of rich communicative potential. John Keane (2013) has coined the term "monitory democracy" to describe the way in which communication through ICT networks allows individuals and civil society organizations to observe and influence the workings of the state and other powerful institutions. This sort of monitory democracy, and especially the civil society organizations that practice it, could be seen as a model for an ecological democracy to come. In order to picture the relation between contemporary network communications and an ecological communicative ideal, we should also consider Morovoz's critique of the current condition of ICTs. He warns that "The environment of information abundance is not by itself conducive to democratization, as it may disrupt a number of subtle but important relationships that help to nurture critical thinking" (Morozov 2011: 95).

> For the Internet to play a constructive role (…) it needs to be accompanied by an extremely ambitious set of social and political reforms; in their absence, social ills may only get worse. In other words, whatever the internal logic of the technology at hand, it's usually malleable by the logic of society at large (*Ibid.*).

As Eckersley suggests, a general unguided flow of information may not be sufficient; specialized institutions dedicated to ensuring the accessibility of information relevant to environmental decision making and providing a platform for the voices of all those affected by such decisions may also be necessary. Contemporary communications networks taken as a whole are not focused towards this task, and discourse that takes place via ICTs may be influenced by imbalances of power which arise in digital networks or preexist them. Communication networks can function as a tool in instituting communicative justice, but the norm of communicative justice should also be used as a guide for making those networks more ethical. While communications technology can be a tool in promoting communicative justice, the digital commons can also been seen as an already-existing model of a system founded on such an ethic. The role of the digital commons here is

found in the overlap between it and "deep forms of democracy where communicativeness and redistributive equality are found across a range of social spheres" (Plumwood 2002: 65). This is in the extent to which it promotes redistribution, expands the types of speech in the public sphere, and redefines freedom of expression as dependent on occupying a position in a cultural ecosystem.

Just as communicative ethics are central to Eckersley and Plumwood's proposals, so too are they fundamental to Rancière's definition of politics. In this definition, a political community comes into being when its members recognize each other as having a capacity for discourse, which in Aristotelian terms is a capacity for *logos* instead of 'mere' *phōnē*, of speech instead of noise. Politics begins from, and consists in, "making what was unseen visible; in making what was audible as mere noise heard as speech and in demonstrating that what appeared as a mere expression of pleasure and pain is a shared feeling of a good or an evil" (Rancière 2010: 37-38). That is, politics is founded by the ethical gesture of recognizing others as subjects capable of expressing and pursuing values. To attribute to all living beings engaged in autopoiesis (the process of self-creation, in Næss' terms 'flourishing' or self-realization) an interest in their own self-realization is to recognize the "mere expression of pleasure and pain", not previously intelligible in rational deliberation, as the expression of value. Eckersley and Plumwood's projects are then not entirely new political forms, but the continuation of the process of contesting the category of speaking subjects which is fundamental to politics conceived in this way.

The phrase "differently situated others" used by Eckersley is important to keep in mind when considering the possibility of different notions of both self and network. Being situated is here the central element of what constitutes the other and the self. Selves are brought about and distinguished from other entities by their position in networks: political, economic and ecological. That

position is defined by a specific combination of connections to a particular set of other entities, but also requires connections which are shared with other entities not directly connected – whether through a particular material or affective chain, or by way of a connection that all entities have to a third entity – connections such as those that democratic subjects have to liberal "rules of the game" or that living beings have to global aspects of the ecosphere. This relationship between connectivity and self is a key element of the network Self.

4.4 The ecological Self in the network society

Some of the theoretical work to make the conceptual leap from the liberal self to the network Self has already been done by Vilém Flusser , and has been elaborated upon by Gochenour. Writing in 1988, Flusser presented a view of city, society and self as entities formed in a field of networks, or

> a net of relations among human beings, an "intersubjective field of relations." The threads of this net should be seen as channels through which information like representations, feelings, intentions, or knowledge flows. The threads knot themselves together provisionally and develop into what we call human subjects. The totality of the threads constitutes the concrete life world, and the knots therein are abstract extrapolations (Flusser 2005: 7).

These knots bring with them the concept of a *nodal* self "in which different lines are gathered together and contained" (Gochenour 2006: 7).[12] "The notorious Self is seen as a knot in which different fields cross, as in the way the many physical fields cross with the ecological, psychic, and cultural" (Flusser 2005: 6). That is, Flusser sees this self arise both with new technologies and forms of social organization and with new frames of scientific understanding,

[12] It may be helpful to describe the nodal self by way of an analogy drawn from the realm of astrophysics. The nodal self could be seen not as a dot, or a void, but as a singularity, infinitely dense. The substance of its existence may only be in its relations to other nodes, but this does not mean it is merely a cipher through which these relations cross. A sufficient complexity of relations creates "incomparably unique individuals" (Gorz 1989: 175), irreducible points in the total field of relations, just as a sufficient compactness of matter creates points of infinite curvature in physical space.

> the concepts of other areas, for example, ecology (organisms are knottings together of ecosystems); molecular biology (phenotypes are knottings together of genetic information); or atomic physics (bodies are the knottings together of the four field strengths) (Flusser 2005: 7).

Similarly, Castells proposes "a direct correspondence between the themes put forward by the environmental movement and the fundamental dimensions of the new social structure" (Castells 2009b: 180) in which "ecologists induce the creation of a new identity" (*Ibid.*: 184). Indeed, the term "space of flows" describes ecosystems as well as the sites of global financial transactions and communications. In both Flusser and Castells we see a convergence between ecology and the developments of the network society. To go further, and combine Næss' ecological Self and Flusser's nodal, network self, may overcome conceptual limits in both models. Since Flusser's model of the self arises from its place in a network, changing the definition of the self necessarily involves changing the definition of the network. That network is no longer an "intersubjective field of relations," increasingly mediated through technology, made up of symbols and other affective influences. It is an intersubjective field of relations encapsulating all human and non-human entities. It includes not just representations, feelings, and knowledge, but all the affective and material influences between entities. Such influences range from the emotions generated by viewing a landscape (or a representation of a landscape) to the transfer of oxygen from a photosynthesizing living being to the atmosphere and into an aerobic organism, or the transfer of energy from prey to predator. This network in which subjects arise is coextensive with the whole of the ecosphere, and the ecosphere can be visualized as a network. "The ecosphere, the whole planet, Gaia, that is the basic unit" (Næss 2005: 18).

Gochenour (2006: 7) states that "all communities are distributed systems of nodes in interaction with one another" and that "what has limited the concept of community to specific spaces has been the limitations on interactions

imposed by the limitations of communication technology." But a much greater limitation, predating contemporary ICTs, is the limitation of the concept of community to the human species, and a corresponding limitation on the forms of interaction taken into consideration. Broadening the network fixes a shortcoming of Flusser's image: a self entirely constituted by language and social interaction would seem to disappear entirely upon any retreat from the social sphere. A self constituted by placement in an ecological network continues to exist during retreat from the social field. It is existence outside of the network-as-ecosphere that is impossible. Within the ecological network, an entity, including the ecological whole itself, is "an autopoetic [sic] unity" which "arises only in relation to an environment from which it distinguishes itself, its own internal dynamics being inseparable from the environment in which it is found" (Gochenour 2006: 10).

A network image can also be used to fortify a deep ecology formed around the concept of the ecological Self against certain criticisms and misunderstandings. To illustrate, I will work with Plumwood's critique of deep ecology.

While permitting that that the "problematic political developments" she associates with deep ecology do not follow necessarily from its "basic ideas" but are instead contingent and "in some conflict with certain of its basic insights" (Plumwood 2002: 213), she characterizes transpersonal ecology as a "cosmic" form of non-anthropocentrism, and the ecological Self as a unitary, assimilative identity. In her interpretation, "Naess treats removing the existential gulf [between humans and the non-human world] as meaning the expulsion of difference and the basing of value on forms of identity or equivalence to self." She asserts the need instead for "frameworks based on maintaining the tension between Same and Different rather than generally eliminating difference in favour of sameness or vice versa" (*Ibid.*: 201). I hope to use the network image to explicate the way in which the ecological Self is

grounded and materialist rather than ‘cosmic’ or metaphysical, and relies on an identity formed through difference rather than unity. Seeing the ecological whole of the ecological Self as a network, and the self as a node within that network allows us to see the particular form that unity and difference take. Of central importance is to see node and network as simultaneously *constituted and constitutive.* Following Flusser, the ecological nodal self is a knot of all the material (including affective) relations a node has with other nodes. The nodal self is entirely constituted by its relations, and, through the further chain of relations that connect all entities within the ecosphere, constituted by its place within the ecological whole. The ecological whole thus is constitutive of all entities within it (all nodes within the network) but it is also entirely *constituted by* the nodes and their relations. Since the nodes are defined by the specific array of material connections that constitutes them, which is their relative position within the network, the unity of the ecological whole is entirely dependent on, and constituted by, the difference of each node. The ecological network (and ecological Self) is not simply the total sum of nodes and connections. The ecological network exists in the interdependence of nodes, in the impossibility of either node or network preexisting the other. Thus, the identification of self with Self, the identification of node with Network, is not an identification of total unity or similarity. The network Self exists in the space between identification as node and as network, or between the node as *constitutive* of the whole and the node as *constituted* by the whole. What might have previously appeared as a “unity or fusion of interests” (Plumwood 2002: 197) becomes an overlay of the particular qualities and interests of each nodal entity in its role of constituting the whole with the shared interest of all nodal entities in the perseveration of the whole as a constitutive reality. This is not the identification of self with Self as an “expulsion of difference.” Instead, it is the identification of unity *in* difference. To borrow Flusser’s words,

> it demands that we must surround ourselves existentially. We must stop wanting to recognize ourselves and others and instead seek to recognize others and to find ourselves in them again. We must break out of the capsule of the self and draw our selves into concrete intersubjectivity. (Flusser 2005: 9).

The network, ecological Self is, precisely, a model of *concrete intersubjectivity* and not a 'cosmic,' metaphysical holism. Næss states that in deep ecology "it is taken for granted that the self is basically ecological. Talk about human beings in the environment is misleading, for we are as much out there as inside here. The beauty of a tree is as much in the tree as it is inside us" (Næss 2010: 14). We need qualify this language only slightly to see it in the network frame. We can say that the human being (and any other being) is 'in' the environment, as much as it occupies a specific, relational place within the ecological network of constitutive material connections, but to be 'in' the environment does not mean to be separate from it; in fact it can only mean to be irrevocably a part of it. Since the nodal subject is entirely a knot of connections, including the sensory and cognitive affective valuations of aesthetics and ethics and the relation all entities share of being constituted by placement in the whole, "the beauty of a tree is as much in the tree as it is inside us" in more than a poetic sense only. This model, I believe, is sufficient for "recovering multiplicity and difference [in] a dual project of rejecting hyper-separation and also affirming difference, as responses to different parts of the logic of the One and the Other and to the Othering of nature" (Plumwood 2002: 202).

Plumwood admits in her critique that "there is a considerable convergence here between the counter-hegemonic virtues of solidarity and mutuality and the kinds of virtues of openness Naess's form of deep ecology has itself recommended" (*Ibid.*: 206). Plumwood faults deep ecology for focusing on value instead of ethics, but, as I have argued, the boundary between ethics and other fields concerned with the attribution of value should not be seen as definite. An ecological network model can in fact provide an ontological basis

for the values of communicative justice that Plumwood champions. Basing a communicative ethics on a communicative ontology, or indeed actually merging the two, follows from conceiving the ecological whole as a field of both material and affective relations, which is, in Næss' language "placing, as Spinoza does, joys and other so-called subjective phenomena into a unified total field of realities" and thus overcoming the "cleavage into two worlds [of] the world of fact and the world of values" (Næss 2010: 114).

Joining the concepts of the nodal self and the ecological Self allows us to clarify some of the vagueness that Næss points to in his own concept of the Self:

> The widening and deepening of the individual selves *somehow* never makes them into one 'mass'. Or into an organism in which every cell is programmed so as to let the organism function as one single, integrated being. How to work out this in a fairly precise way I do not know. It is a meagre consolation that I do not find that others have been able to do this in their contemplation of the pair unity-plurality. 'In unity diversity!', yes, but how? As a vague postulate it has a specific function within a total view, however imperfectly (Næss 1989: 173).

When the self is considered to be nodal, and the Self is identified with the ecospheric network, the "contemplation of the pair unity-plurality" becomes a fundamentally topographic activity. A network topology offers an answer to the question of how diversity is to be found in unity. The unique set of relations to other nodes that constitutes each entity is what defines a certain position within the network, and establishes diversity. These same relations are what constitute the unity which is also the precondition for each entity. The total view of all the connections which make up the self and the Self can never be fully grasped, and working out in a precise way the pair unity-plurality becomes not a separate activity, but a process comprising all activities which map constitutive relations between entities. The specific function of the vague postulate is to establish that the consideration of interests is always also the consideration of identity. This is a position from which a view of politics as

the competition of interests can be joined to the view of politics as identity formation and the view of politics as the opposition of forms of commonsense. The description of interests in any particular situation must also be a delineation of the relations which, in part, constitute the identities of all entities involved, and each mapping of interests and identities becomes a "specific distributio[n] of space and time, of the visible and the invisible" (Rancière 2010: 141). Thus, the opposition of interests takes the form of the clarification of the unity of the network and the elaboration of selves and the Self. It creates a space in which stated interests can be compared and critiqued on the basis of their place in a partial map of the unity of ecological relations. In an ecological politics, then, interests, and the demands of 'interest groups' are prioritized only according to the extent they are found to correspond to the ultimate interests of all opposing groups; that is, to the vitally constitutive relations all sides depend on. Politics becomes the identification of relevant higher-order gestalts. Self-realization, meanwhile, becomes a continual process of an individuals' identification of the gestalts of their particular experience with higher-order gestalts, each gestalt describable as a network of relations between nodes. Valid political claims are convincing productions of gestalt views, and the making of such claims can be said to be the Self-realization of groups. The process of ecological identification can thus be analogized to Mouffe's process of political identification: the movement from self to Self in self-realization is the creation of chains of equivalence through the ecospheric network. Both ecologization and democratic politics work through a process of identification which does not peremptorily equate the individual with an organic, given whole, which assumes consensus and an obvious harmony of interests, but by tracing certain constellations within a framework which is acknowledged as present but not directly invoked in every concrete decision and action. Thus, democracy is not consensus, and the movement through which self-realization comes to be identified with Self-realization is not one of a singular revelation, but is a process by which each individual traces networks

of identification, each configuration advancing towards a more complete identification with the entire network. That network is, in politics, the *demos* and the common institutions and history that inform "constitutional patriotism" and, in ecology, the ecosphere.

The model of an ecological network Self allows us to continue the work of describing the deficits of the economic, political, social and technological networks which comprise contemporary network society. Meijas names one of central pathologies of the contemporary network "nodocentrism,"

> the assertion that only nodes need to be mapped, explained or accounted for. Nodocentrism means that while networks are extremely efficient at establishing links between nodes, they embody a bias against knowledge of – and engagement with – anything that is not a node in the same network (…) nodocentrism constructs a social reality in which nodes can only see other nodes. It is an epistemology based on the exclusive reality of the node. It privileges nodes while discriminating against what is not a node – the invisible, the Other (Mejias 2010: 612).

This is what Castells describes as "the social construction of new dominant forms of space and time (…) a meta-network that switches off non-essential functions, subordinate social groups, and devalued territories" which creates "infinite social distance" between the network and "most individuals, activities, and locales around the world" (Castells 2009a: 508). Mejias' proposed response is to focus on the *paranodal*, that which is excluded from the networks, the "multitudes that do not conform to the organizing logic of the network" which "exis[t] only to be bypassed or collapsed in the topological act of linking, of reducing the distance between nodes." The project of "conceptualizing the paranodal" aims to "uncover the politics of inclusion and exclusion encoded in the network and suggest strategies for disidentifying from the network" (Mejias 2010: 612). He compares the paranodal to Rancière's "part of those who have no part," concluding that

> if social network services are a model for capitalist subjectification – indoctrinating social subjects to operate in the privatized 'public' space

> of the network – then it is only in the paranodal where disidentification can take place and alternative subjectivities can emerge (Mejias 2010: 613).

However, the ecosphere is a network within which the networks of informational capitalism have always been embedded in. Hence, paranodal space "gives nodes their history and identity [and] animates the network" precisely because such paranodes are, properly considered, connected through larger ecological networks to nodes in the technological and economic networks from which they are excluded. This also allows for a more accurate reading of Rancière (2010: 33), since his "part of those who have no part" refers not only to the excluded and disadvantaged, but to the entire population and the equality they possess outside of their manageable, quantifiable characteristics. This democratic equality of the "part of those who have no part," as the People, arises as a surplus above and beyond the aggregate of individuals, just as the unity of the ecological Self arises not simply from an aggregate of constitutive nodes, but from the role the whole has in constituting those nodes. Democratic equality is not an intrinsic characteristic of individuals, but a quality that arises in each only through constitutive membership in a whole. Positioning the paranodal as part of larger networks may also help us clarify what is meant by the network self. The network self is not the self as defined primarily through activity in technological networks. It is a method of mapping the interdependence and co-determination of selves that are antecedent to, even if accelerated by, those networks.

From here, formulating and pursuing political projects is not a matter of disidentifying from the network, and working in "paranodal space" but in identifying and correcting the contradictions that arise between the exclusions of contemporary networks of power and the preexisting inclusions in ecological networks. This is, precisely, an ecological practice of *dissensus*, of overlaying the image of one world, the world of ecological interdependence, on top of another, the world of techno-economic networks.

5. Communalism, Cosmopolitanism, Commons

In this chapter I will explore what I believe to be the most important implications of adopting a network model of the ecological Self and of using new hybrid frameworks for ecological politics. This includes further avenues of change or adaptation within deep ecology. To begin with, I wish to look at a localist and communitarian strain of ecological activism, its limitations, and how these might be tempered by a network cosmopolitanism.

5.1 Green communalism against network cosmopolitanism

Towards this purpose, and for the sake of brevity, I will mostly be engaging with biologist David Ehrenfeld's positions in *Swimming Lessons: Keeping Afloat In The Age of Technology* (2002). This texts serves well as a discussant because of its deeply and explicitly held technological skepticism, its emphasis on the communal and its associated unwillingness or inability to engage with politics in the sense that has been discussed here. The narrative of Ehrenfeld's argument is structured around an opposition between local communities and the multinational corporations of informational capitalism. While he is strongly opposed to the global network society as currently constituted, the form his opposition takes is actually strongly postmodern. This kind of Green communalism can be shown to be symptomatic of postmodernism rather than a coherent response to the postmodern condition which presents a way beyond it. It functions as what Castells labels a resistance identity, but its limitations prevent it from becoming the model for a project identity (Castells 2009b: 383). In Ehrenfeld's work, these limitations take the form of several contradictions, linguistic absences, and unanswered questions.

As described by Bauman (2006: 92) "'Community' is these days the last relic of the old-time utopias of the good society (…) slimmed down, realistically, to the size of the immediate neighbourhood." Ehrenfeld's vision shows just how

slimmed down this utopia is, even when it has an ecological bent instead of a primarily ethnic or nationalist one. Community, in *Swimming Lessons*, can only be authentic when it is local, and functions as a zero-sum game. Thus, distributed communities made possible by ICTs create "the [mere] sensation of being part of a community of people working, creating, and playing together for the common good" (Ehrenfeld 2002: 47). This, he claims, can only be mere sensation without substance, because participants live in different climates and landscapes with different environmental problems. Yet in the Anthropocene we see that while geographically separate communities may occupy different environments, they also commonly occupy the ecosphere and are susceptible to phenomena of a global scale. They are in distinct regions of a global network but irrevocably connected to that network. Participation in a distributed community, for Ehrenfeld, necessarily requires the weakening of spatially contiguous communities. This reflects a communitarian tendency to "believe that we belong to only one community, defined empirically and even geographically" (Mouffe 1993: 20). Hence belonging to a 'second' community means belonging *less* to the first. But if we recognize ourselves as members of a *demos*, as selves in an ecological whole or nodal subjects in a network, then we see ourselves and others as "in fact always multiple and contradictory subjects, inhabitants of a diversity of communities (…) precariously and temporarily sutured at the intersection of those subject positions" (*Ibid*.). Such a view of zero-sum communities with absolute borders "simply reproduces at the community level what liberalism assumes at the individual level, the atomistic, autonomous, self-contained self with no essential ties to others and no imaginable motive for cooperating with other atoms" (Plumwood 2002: 78). In the construction of a project identity capable of a new ecological politics, we must complicate such simple views of community, and we may need to temper or reject outright Næss' proposed deep ecological principle of "cultivation of life in community (…) rather than in society" (Næss 2010: 106). This is not to say that cultivation of life in (spatially contiguous)

community is not important on its own. What is to be avoided is viewing the patterns of connection bundled in the term ‘community’ as essentially distinct and separate from other kinds of connection in the full set of relations that individuals and groups have with others, and to privilege these connections based on geographical nearness, ethnic ‘identity’ and other characteristics that typically define the communal.

Ehrenfeld’s limited focus on community is linked to his unwillingness or inability to engage deeply with the question of technology and global civilization. The use of technology is for Ehrenfeld a matter of individual decisions to opt-in to or opt-out of particular applications (for example, he drives cars but does not watch television, sends faxes but does not use e-mail). He says that “these choices are not arbitrary, although they may be disputed. What matters is that they are my choices” (Ehrenfeld 2002: 40). Yet the opposite is true of the sustainability of particular uses of technology: the aggregate effects of technologies are more important than whether individuals can pick and choose from individual applications. If it proves, for example, that the ecological toll of driving automobiles is much higher than using e-mail, what ‘matters’ is not individual choice but that these choices can be made by society at large. This is not to say that anyone should be obligated or required to use certain technological applications in their private lives. The point is not that Ehrenfeld personally *should* choose to use e-mail or watch television, or choose *not* to send faxes or drive a car. The choice any individual has to use one of these technologies is predicated on the maintenance of infrastructures that make them possible. Such systems are collective endeavors, and what matters to sustainability are collective decisions which determine the range of technological choices available to individuals. While Ehrenfeld imagines himself opposed to global techno-economic networks, his relationship to the commodities and services it provides is perfectly postmodern. Contrarian simplification is simply another way for atomized individuals to define themselves through use – and selective refusal – of

commodities. Here we again see that "in the land of the individual freedom of choice the option to escape individualization and to refuse participation in the individualizing game is emphatically not on the agenda" (Bauman 2006: 34). Ehrenfeld can follow two seemingly contradictory symptomatic tendencies of postmodernity, by combining the individual identity construction of life organized around consumption with the "search for a primal shelter" that Bauman characterizes as its counterpart. Finding the appropriate role for technology is still a matter of individual choice, but the goal is no longer to remain perpetually open to novel commodity-mediated experiences. Instead, individual choices to use or avoid particular technologies serve as a way of resisting the "enormous forces backed by vast resources" that "push at us to adapt" to new technologies. In this "personal struggle [of] becoming the arbiters of our own adaptations (…) we have the power (…) of knowing that nature and community are on our side" (Ehrenfeld 2002: 40). The primal shelters of nature and community are presented as guides for an individualized approach to determining the role of technology and commodities. Thus informational capitalism and its postmodern individualization incorporate the reaction they engender, without the basic model being altered.

Decisions about the use of technology that substantially influence the ecological impact of civilization are not made at the level of personal struggle with appliances. Yet in Ehrenfeld's view, political life is out of the question. Community is the realm of consensus, not dissensus. Small, geographically defined communities are not only preferable but inevitable, as they will be all that remains after "the unmanageable techno-economic behemoth (…) collapses of its own weight" (*Ibid.*:101). Technology is an autonomous force in this view, but is telelogically doomed. Indeed, not only is technology autonomous, it would seem to be more autonomous than human society. Any increase in the justice and decency of human societies follows the vague rule "that systems that are greatly at odds with justice and good-ness do not last forever," a law of history that is either "an indication of the existence of some

Design beyond our fathoming or is just the bright side of human fallibility" (Ehrenfeld 2002: 176). Concerted, purposive, collective action seems to have no place here. Without an idea of such action, we are forced to accept what Ehrenfeld freely admits would be the many negative effects of techno-economic collapse and a communitarian reorganization:

> A major cause of suffering will be problems arising from excessive loyalties to small communities and states. We can expect to see all the ancient, familiar side effects of smallness and decentralization: bigotry, racial and religious hatred, the subjugation of women, and intolerance for handicapped people, homosexuals, visionaries, and anyone else who can be labeled as different (*Ibid.*: 174).

This is not to mention the famine, migration and violent conflict that could occur on a massive scale in a collapse-driven transition, a transition that would see "a kind of international caste system in which the poor of the developing world are consigned to (energy) poverty in perpetuity (…) combin[ing] Malthusian environmentalism with Hobbesian conservatism" (Beck 2010: 263). Resignation to this fate is hardly an ethical position.

Nor is it necessarily true that a turn to localism would produce sustainable, ecologically harmonious results. As Plumwood (2006: 76) states, "there is a huge gap between the ideal ecological consciousness attributed by bioregionalists to autarchic communities and the actual consciousness and behaviour of the small-scale communities we can see around us." Her cogent argument is worth quoting at length:

> Although small-scale communities can reduce epistemic and responsive remoteness, and in some areas such as energy use can greatly reduce consequential remoteness, they can often also offer people fewer alternatives to damaging forms of economic activity, so that benefits from reducing remoteness can be offset or cancelled out (…) Observable small-scale communities (like the one I live in) suggest that proximity to local nature does little to guarantee the first condition of the bioregionalist, the transparency to inhabitants of ecological relationships and dependencies (…) Even with goodwill, many ecological impacts may neither be containable nor evident at the level

> of the local community, for example, the contribution of local animal waste to the global store of biospheric methane. Familiarity with the wildlife of a particular community might tell you that a certain animal is common locally, but it will not tell you that it is very uncommon or extinct everywhere else, information that may be crucial to encouraging enough restraint to allow the animal to survive the intensified local demands of a small-scale self-sufficient economy. Here autarchy could actually hinder the transparency of ecological relationships and the development of a critical sense of place that can situate local relationships and communities in relation to wider communities (Plumwood 2006: 76).

The flaw in the ideal of autarky, as with Ehrenfeld's privileging of spatially contiguous over distributed communities, is that it assumes a greater transparency of relationships and dependencies in geographically immediate contexts. Not only may this prove at times to be an unfounded assumption, in a period of economic globalization and ecosphere-wide environmental change, the opposite may in fact be true. If the most significant changes on a local level are caused by processes occurring on a global scale, it is precisely at the local level where the relevant relationships and dependencies will be most opaque. The scientific certainty around global anthropogenic climate change is a product of an internationally distributed community just as much as the economic processes that drive that change. Yet by Ehrenfeld's standard, climate science is the product of a 'pseudocommunity.' The effect on the local of global processes cannot be wished away, and categorically privileging the contiguous over the distributed does not advance societies' ability to understand or control them. Furthermore, focusing on the geographically near at hand may run counter to the goal of orienting decision making to longer timeframes.

5.2 Human responsibilities in glacial time

If we try to think in terms of a much longer, 'glacial' time scale, the culpability humanity has for initiating changes in the global climate leads to the question of what *positive* responsibility humanity has for the ecosphere, as a system which makes possible the self-realization of the Earth's living beings. For

while the history of global climactic conditions reveals "a constitutive vulnerability to forces beyond its control" (Clark 2010: 47) in the character of humanity, this vulnerability is also constitutive for the majority of life on this planet, as evidenced by the series of mass-extinction events that mark the history of life on Earth. If we are to seriously uphold the self-realization of all life as a principle guiding our species' behavior, we must consider our responsibilities on the scale of glacial time. Thus we cannot follow Ehrenfeld in his prediction and fatalistic acceptance of technological civilization's immanent collapse, or the communitarian principles he offers for plotting the future beyond it. Just as Næss includes the continuation of techno-scientific progress in his sketch of the next century's ecological society, so must we expect to continue the use of advanced technology while integrating both our negative and positive responsibilities (to do less harm and to prevent harm, respectively) as part of the ecosphere into our decision making. Mass extinction due to the run-away effects of anthropogenic climate change and the already greatly accelerated rate of extinction due to economic activity are failures of human civilization. However, *allowing* a mass extinction event to occur, caused, for example, by an asteroid impact, when further technological progress would provide methods of prevention would just as surely be a species failure. In Næss' words, "if (…) human beings in some remote future could avert a glacial age, or the impact of a comet, then I tend to think that no norm should be used against interference of this magnitude in natural systems" (Næss 2010: 187). The path to making civilizational decisions in the frame of glacial time does not run backwards, to a past before the 'timeless time' of informational capitalism, but beyond it. Technological evolution's role in our ecological responsibilities gives an ecological and ethical weight to the project of discovering ecological potentials within contemporary technological developments. To reject technology outright would be to join informational capitalism in "the culture of the annihilation of time, which is tantamount to the canceling of the human adventure" (Castells 2009a: xliii).

Thus, we need an active shaping and directing of the "techno-economic behemoth" instead of refusal or resignation. This requires selves capable of political activity at local, regional and global levels of human and ecological networks. It requires people and projects that move beyond the mandatory individuation of postmodernity and its communitarian counterreaction. And it calls for ways of living in technological, social and ecological networks. We can find a communitarian streak in deep ecology, as when Næss doubts the wisdom or possibility of urban multiculturalism, and speaks of the "pseudo-richness of cultures within the borders of a metropolitan area like Los Angeles" (Næss 2005: 272). But elsewhere Næss states that just such "derogatory talk about big cities and city lifestyles may be counterproductive" as "big concentrations within small areas are necessary to minimise devastating effects upon other kinds of life than the human," and thus "more effort is needed to improve life quality in the areas of concentration, not more effort to spread the population all over the globe" (Næss 1989: 155). In statements more central to deep ecology's project, we find a good description of the situation: "in short, there is no way back to societies that belong to the past, but there is a way back to ecological sustainability" (*Ibid*.: 589). Instead of communal autarky, we find encouragement that "both a trend toward centralization of political decisions and a trend toward decentralization must be envisaged" (*Ibid*.: 197) and a call "to take into account the present-day diversification of subcultures – rapidly changing groups of people trying out 'new' ways of life in conscious opposition to what is 'customary' within a particular culture" (*Ibid*.: 272). We may proceed from this basic embrace of diversity and pluralism. This does not mean abandoning either the idea of community or actually existing local communities. It does entail a shift from a view of organic, bounded communities, and "the idea of community as a unity or fusion of interests" (Plumwood 2002: 208) to a view of communities as a particular network of interests within and connected to other networks, each

node in each subsidiary network constituted by its relations to others, and constituting the whole.

5.3 At the interstices of politics and aesthetics, wildness and the commons

In this section, I attempt to draw parallels between human and non-human ecologies, of societies and cultures on the one hand, and of nature on the other, by means of a meditation on the term 'wildness,' and its meanings and value.

The Anthropocene, and the specter of ecological crisis, cast doubt on Castells' characterization of the network society's place in history. In his description, human history has proceeded from an original epoch of the domination (or determination) of 'culture' by 'nature' through a modern era of the domination of nature by culture, to the current, postmodern, network society in which "culture refers to culture, having superseded nature to the point that nature is artificially revived ('preserved') as a cultural form." This is "the beginning of a new existence… marked by the autonomy of culture vis-à-vis the material bases of our existence" (Castells 2009a: 508-509). But, as discussed in the last chapter, anthropogenic climate change puts on display both nature's vulnerability to human action and humanity's continued vulnerability to and dependence on nature. It is too early to declare 'nature' to be entirely subsumed by culture. Yet the reach of ICTs and the global character of climate alteration do suggest that "the difference between 'close by' and 'far away', or for that matter between the wilderness and the civilized, orderly space, has been all but cancelled" (Bauman 2006: 11). Nature retains some form of autonomy, but is not a distinct sphere. This autonomy does not then reside in an absolutely separate 'wilderness' but in a 'wildness' that transects nature and culture. "Civilization is permeable, and could be as inhabited as the wild is" (Synder 1990: 15). Where does wildness permeate?

We can find wildness in the principles of diversity, plurality, and democracy. Rancière defines the *demos* in opposition to the ordering and management of

the population by its characteristics. In so much as wildness requires and is defined by an element of being unmanaged, we can rephrase Rancière's definition of the demos as being the population delineated and united by the principle of its wildness. This is the wildness of "a subject who 'rules' by the very fact of having no qualifications to rule" (Rancière 2010: 40), the wildness of there being "no good reason as to why some men should rule others" (*Ibid*.: 53). The notion of wildness also allows us another angle from which to see the demos as a 'surplus' community, if we read surplus in the sense of abundance. In a moment, I will discuss abundance as one of the characteristics that gives wilderness and the commons a shared border.

Wildness is a necessary counterbalance to the modernizing impulse "to re-configure the totality of the material world in order to tum it into the product of its own immaterial power" (*Ibid.*: 81). Wildness is an attribute of the "mute letter" of literature under the aesthetic regime, as a windblown seed that goes its own way, rather than one "planted by a master (…) in the soul of a disciple" (*Ibid*.: 157).

Gary Snyder concludes that contemporary cities qualify as *natural*, since they "do not deviate from the laws of nature" but are not *wild*, as they "are habitat so exclusive in the matter of who and what they give shelter to, and so intolerant of other creatures, as to be truly odd." To be wild requires "a diversity of living and nonliving beings flourishing according to their own sorts of order" (Synder 1990: 11-12). Here we clearly see the ecosophical valuation of living beings' right to their own autopoietic self-realization, but also an identification of wildness with diversity and tolerance. We can draw a parallel here between the opposed principles of wildness and unwildness and of politics and police. Wildness is a requirement for liberty and diversity, and tolerance is a requirement for wildness.

The idea of wildness can also animate Shirky and Morozov's explanations of the role of the digital commons in the nurture and spread of democratic

culture, as discussed in Chapter 3. The importance of the digital commons is not primarily in a capacity for direct, concrete measures to promote and instantiate certain values, but in the lessons imparted by, and the intrinsic value of, the diversity and wildness of free exchange. The digital commons becomes the site of a communicative and aesthetic wildness not ultimately separable from the wildness that runs through the continuum of nature and culture.

Snyder locates the origins of the commons, "the ancient mode of both protecting and managing the wilds of the self-governing regions", in those places that were between the cultivated and the wild, "between the extremes of deep wilderness and the private plots of the farmstead (…) embracing both the wild and the semi-wild." This commons "is essential even to an agricultural village economy because its natural diversity provides the many necessities and amenities that the privately held plots cannot" (Synder 1990: 30). The commons and the wild are brought together by notions of richness and diversity, abundance and surplus.

If we can return to Thoreau's early praise of wildness, we may be able to see the special position occupied by the free exchange of music in the digital commons:

> In short, all good things are wild and free. There is something in a strain of music, whether produced by an instrument or by the human voice, – take the sound of a bugle in a summer night, for instance, – which by its wildness, to speak without satire, reminds me of the cries emitted by wild beasts in their native forests (Thoreau 1994).

Thoreau sees a wildness that permeates both culture and nature. Letting music loose through the circuits of the network society brings an element of wildness to the technology in the lead of reshaping the world following principles of growth and consumption. This loosing creates 'appropriate' technology not by replacing existing technology but by finding a new use for it, identifying an alternative regime within dominant networks.

There is, perhaps, a risk of complacency in discovering and nurturing this cultural wildness, of seeing in it an adequate replacement for wildness in nature, or as a consolation for its loss. Indeed, the whirl of capital itself can be seen and experienced as a form of wildness, as Næss admits:

> Rich people who work in the world of business and are supporters of the deep ecology movement sometimes ask in all seriousness whether green utopian societies must look so dreary. Why portray a society that seemingly needs no big entrepreneurs, only organic farmers, modest artists, and mild naturalists? A capitalist society is, in a certain sense, a rather wild society! We need some degree of wildness, but not exactly of the capitalist sort. The usual utopian green societies seem so sober and tame. We shall need enthusiasts of the extravagant, the luxurious, and the big – but they must not dominate (Næss 2005: 615).

By what assessment can we judge wildness of the "capitalist sort" as insufficient, and disqualify it, in its present form, from inclusion in green societies of the future? To what extent can we find in the digital commons an alternative method of providing such extravagance, luxuriousness, and bigness? One of my themes has been the tendency of capitalist wildness to favor liberties of property over other forms of liberty. Thus the unmanaged nature of capital reduces other forms of cultural wildness and diversity over the long term. More fundamentally, the capitalist sort of wildness threatens the wildness of the non-human world and the viability of cultural and natural systems, and thus the possibility of wildness and ultimately any other normative values.

Free exchange within the digital commons promotes diversity and richness by increasing the availability of cultural objects. There is an "intimate relation between complexity and diversity. When the number of elements increases linearly, the number of possible relationships increases factorially" (Næss 1989: 202). As discussed in Chapter 3, to the extent to which the material structures of economies of transmission are more tenably open to collective ownership, there is a greater opportunity for collective decision making aimed

towards reducing the material extensity and environmental impact of such a system.

The celebration of cultural wildness – capitalist or otherwise - must be accompanied by a mindfulness of its placement in the higher-order gestalt comprising nature and culture, now differently but no less inseparable than in the epoch of nature's domination of culture. Wildness becomes an important value to the extent it inspires appreciation for it, and its associated values of diversity, toleration and liberty, in the realms of both culture and nature[13], and the innumerable areas in which the distinction between those realms is not so clear, and as much as it encourages the cultivation of an eye towards the relationships between cultural and natural wildness.

At this point some clarification of the term 'higher-order gestalts' is in order. This concept might appear to reintroduce the prevalence and necessity of hierarchy – Næss (1985: 58) uses the language of "a complex realm of gestalts, in a vast hierarchy." Yet this is a form of hierarchy distinct from the hierarchies of the representational regime, pre-modern society or state bureaucracy. This form of hierarchy is one of wholes contained by larger wholes, of configurations of nodes within larger networks, and in this form of hierarchy the idea of simultaneously constituting and being constituted by larger wholes is crucial. Such a hierarchy is not created by valuing some elements more highly than others, but requires always a dual valuation. Higher-order gestalts may be admired for their complexity, and specially valued for being the context and precondition for lower-order gestalts, but this necessitates recognition that the lower order gestalts that constitute them are also, reciprocally, the context and precondition of the higher-order gestalts. This is not a hierarchy of one element above another, but of one element

[13] If we see, for example, the peaceful coexistence of species in different niches within the same ecosystem as an example of toleration in nature, we can identify tolerance as a major contributor to increases in diversity and complexity.

encompassing another. Such is the ontological basis for a politics which limits the extent to which the interests of larger wholes allows for sacrificing the interests of individuals and the extent to which individuals may ignore the interest of larger wholes.

6. The network Self as a project identity

In order to sketch the outlines of a new eco-democratic project identity, it will be useful to mull the character of modernity's project identities, and of modernity itself. To return to Chapter 2, a project identity, as defined by Castells, is "a blueprint of social values and institutional goals that appeal to a majority of citizens without excluding anybody" through which collective social actors may "reach holistic meaning in their experience (…) expanding towards the transformation of society" (Castells 2009b: 369, 10).

Bauman (2006: 3) describes a spirit of modernity which is concerned with the 'melting' of "the pre-modern solids" which it found "in a fairly advanced state of disintegration; and one of the most powerful motives behind the urge to melt them was the wish to discover or invent solids of – for a change – lasting solidity". The quest for sustainability is just such a search for lasting solidity, although it comes in at least two forms, one being what Eckersley (2004: 109) terms "weak ecological modernization" which aims at the adjustment of the (post)modern solids, the other being a project of inventing the solids of 'ecomodernity.' Following this pattern of dissolution and reformation, we can look for elements of ecomodernity latent within postmodernity, just as Harvey sees postmodernity as coalescing from a set of attributes latent within modernity. An ecomodernity will only cohere through adopting and opposing various elements from the continuum of modernity and postmodernity. This process of cohesion includes the analysis and correction of fundamental, fatal errors of theorization and application in the projects of modernity.

In *Critique of Economic Reason* (1989) André Gorz identities economic rationalization, the relentless pursuit of quantification and efficiency, as the central principle of both capitalist and state-socialist projects of modernity. In Marx's analysis, the "division of labour into an infinite number of interchangeable tasks of an indifferent, 'accidental' character" that

characterizes industrial production "suppresses the 'limited relationship of men to Nature' and their 'limited relationship to one another' and, as 'the universal development of the productive forces', engenders a 'universal intercourse between men'" (Gorz 1989: 23). This creates a proletarian class who obtain "a direct interest in (…) subordinating the social process of production to their common control", and this "proletarianization of the producers therefore promises to be merely one facet of a grandiose and potentially emancipatory enterprise of rational unification of the social process" (*Ibid.*: 25). Gorz thus identifies the "principal utopian content" of this project as the destiny of the proletariat in realizing "the unity of the real as the unity of Reason" and to do so as "individuals divested of any individual interest" (*Ibid.*: 26). In this "universal voluntary collaboration of 'the united individuals' (…) each individual 'as total individual' assumes the totality of social production as her or his personal task" (*Ibid*.: 27). Yet the practical result of this theory's application was far from utopian:

> Soviet-style socialism thus offered a sort of caricatural magnification of the basic features of capitalism. Pursuing accumulation and economic growth as its principal goals, it attempted to rationalize this pursuit by replacing spontaneous hetero-regulation by the market with methodically programmed, centralized hetero-regulation of the economy as a whole. It thus divorced – in all spheres of activity – the functional conduct demanded by the overall rationality of the system from the rationality of individuals' self-regulated modes of conduct. Because it was divorced from the intuitive understanding of their surroundings and relations with one another of which individuals were capable, this methodically programmed rationalization established Reason as a separate power exercised *over* them and not *by* them and established the realm of Reason as the dictatorial rule of those who, as a result of their functions, were its custodians (Gorz 1989: 42).[14]

Thus, the primacy of economic rationalization as the organizing principle of society leads, in Gorz's view, either to the capitalist "hetero-regulation" of "a

[14] If we follow Jameson's (2005: 12) determination that utopia as a form is defined not by positive blueprints but by the conjectural removal of aspects from the society which it compares itself to, then the magnification of features of capitalism within Soviet-style state socialism qualifies it as a failed utopia, even before we judge this result by other metrics and values.

commodity-producing society [in which] people (all of them!) are under the control of things" (Heinrich 2012: 75) or the dictatorial rule of the custodians of Reason. How could an ecomodern project identity both correct for the narrowly ratiocentric limitations of modernity and give modernity an ecological context? And what does the form of the network ecological Self specifically contribute to such a move?

Deep ecology's insistence on returning social deliberation to ultimate goals and fundamental norms allows for identifying modern ratiocentrism[15] as such a norm and allows for the possibility of replacing it, or casting it in a subordinate role to broader foundational norms. This ratiocentric fundamental norm could be called 'Efficiency!', 'Rationalization!', or 'Growth!' and, because it is a fundamental norm

> it does not assert that the economic system such as it is, in the current international situation, needs growth – which would leave open the question of foreseeable changes in either that system or situation – but that growth is good in itself: the more the better (Gorz 1989: 121).

To avoid this terminally growth-oriented result, the "unity of the real" must be realized as something other than "the unity of Reason." But if pluralistic democracy is to be understood as "more than the mere consequence of the acceptance of the principle of toleration" and instead "as the end of a hierarchical type of society organized around a single substantive conception of the common good, grounded either in Nature or in God" (Mouffe 1993: 51), then the holism of nature mysticism or communalism is insufficient. So too would be to take the network society itself as the new, postmodern "unity of the real" – this would serve to justify the position of those who constructed the network society in its current form, and those who are empowered by it. The

[15] 'Ratiocentrism' refers to the primacy of reductive forms of rationality. In Gorz's analysis, this is reductive rationality is economic rationalization as an end in itself; in Plumwood's it is a narrowly anthropocentric, patriarchal rationality of domination, which she refers to generally as 'centrism'. Ratiocentrism does not correspond directly with the concept of 'logocentrism' in linguistics; indeed, if politics involves the recognition of *phône* as logos, it could rightly be called a logocentric process. See also Jameson (2005: 65).

ecosphere in its totality is the only sufficient "unity of the real" (since it is the higher-order gestalt which makes the network society possible) but the form of its unity can best be understood as a network unity. If the ecosphere, as the unity of the real, is taken to be a holistic, singular unity, we may imagine the dictatorial rule of "those who, as a result of their functions" would be the custodians of the ecosphere, or of 'Nature' – precisely the dark future envisioned by those critics who see the prospect of 'environmental fascism' in the ideas of deep ecology.[16] The application of a network view would preclude such a custodial dictatorship in the service of Ecological Reason, at the same time it would correct for one of the critical points of failure in the Marxist project of modernity. Dictatorship, in the form of custodial oversight of society's organizing principle, becomes necessary because that modern project assumes the development of a "total individual" who "assumes the whole totality of social production as her or his personal task." Yet this proves to be flatly impossible; "the Marxian utopia by which functional work and personal activity could be made to coincide is ontologically unrealizeable on the scale of large systems" (Gorz 1989: 42). That is: in a complex society with a system of industrial production (especially a globalized system), no individual can fully apprehend their role in the totality of social production, and assume it as their personal task. The network ecological Self proves a more feasible project identity for the construction of an ecomodernity than the total individual was for a Marxist utopia, because of the form of relation between part and whole in the network. The state-socialist relationship between part and whole, between individual and society, allowed for the

> divorc[e] – in all spheres of activity – [of] the functional conduct demanded by the overall rationality of the system from the rationality of individuals' self-regulated modes of conduct [and] the intuitive understanding of their surroundings and relations with one another of which individuals were capable (Gorz 1989: 42).

[16] Notably Regan (1984). See also Carter (2005), Næss (2005: 94).

Individuals are subjugated to society's organizing principle, which becomes a "separate power exercised over them and not by them." A network whole, on the other hand, *constitutes* its nodes at the same time it is *constituted* by them. The overall rationality of the network – ultimately, the overall functioning of the ecosphere – is nothing *except* the relation of nodes to other nodes. A genuinely ecological organizing principle could not properly be manifested as a separate power exercised over individuals instead of by them, because an ecological power is *only* the exercise of individual nodes' relations. An ecological network society would then fulfill Bauman's definition of an "autonomous society," as one of "perpetually deliberated self-constitution, something that may be only a shared accomplishment of its members" (Bauman 2006: 40). This self-constitution could, however, include and even require state mediation wherever individuals recognize the need for functional conduct addressed to the well-being of network wholes that cannot be addressed by any individual precisely because none are 'total' individuals. In the context of politics and state power, Self-realization is not a matter of transforming the self into a 'total individual' who comes to identify with the functional demands of society as a whole. Since that whole comes about through individuals' and groups' self-regulated modes of conduct, intuitive understandings and relations, the process of identification between self and Self is not the creation of a 'total individual' but the identification of self-interest with both one's own and others' self-regulated modes of conduct and with the functional conduct of larger institutions which aims to maintain and improve the conditions of possibility for self-regulated conduct.

An ecomodern project expands and clarifies the opposition of "glacial time" to "timeless time" that Castells identifies with the environmental movement, and helps explain the meaning and cause of timeless time. Timeless time is the paradoxical creation of a society organized around a principle of economic rationalization, which by means of technological efficiency creates 'free time'. But such a society is "a system fearful of the expansion of this time, yet which

does its utmost to increase it, and which, in the end, can find no purpose for it other than seeking all possible means of turning it into money" (Gorz 1989: 7). The collapse suggested by the idea of 'timeless time' is the result of a continually accelerating process by which time is simultaneously 'created' – by reducing the labor time required in production – and converted into money – by "monetarizing, transforming into jobs and economicizing, in the form of increasingly specialized services for exchange on the market" (Gorz 1989: 7). It is through this dual action that time disappears, and becomes 'timeless'. The ecological appeal to glacial time, in its insistence on limits to economic growth in the present, aims to slow this conversion of time into money, and thus to save time for future generations of life on Earth.

The demonetization of cultural objects in digital free exchange is a deployment of the technologies of efficiency to stand against and even reverse the conversion of time into money. In this, it is ripe to be joined with the ecological appeal to glacial time in a common project presenting alternatives to the central role of economic growth and economic rationalization as an absolute principle guiding the organization of society, in order to defend time, and its human uses, in the present and future. File-sharing, or the defense of file-sharing, becomes a strategic position from which to combat the conversion of money into time; strategic in as much as it is solidly located within the network society and the logic of technological efficiency, and within daily experience.

To clarify the digital commons' role in the construction of a new project identity, it may be helpful to draw parallels between the proletarianization of labor and the digitization of consumption. In Marx's analysis, the proletarianization of labor comes into being through "the division of labour into an infinite number of interchangeable tasks of an indifferent, 'accidental' character, which is now seen as social (and no longer natural)" (Gorz 1989: 23). This creates "a class for whom work is directly social labour determined

in its contents by the functioning of society as a whole and which, consequently, has a vital, overriding interest in taking over the social process of production in its totality" (Gorz 1989: 24). In the digitization of cultural objects, they become "an infinite number of interchangeable" objects, in as much as all objects which may be digitized become 'indifferent', interchangeable bits, with each new copy of an object the same as the last and each object being copied and transmitted approximately as easily, and each in the same manner. In the BitTorrent protocol for peer-to-peer file sharing, each object is further divided into arbitrary, 'accidental' pieces. This parallel is not merely a coincidence – the further breakdown into interchangeable pieces is the mechanism which allows the protocol to transmit data more quickly and efficiently, with that efficiency increasing the more widely each object is distributed.[17] That is, subdivision into interchangeable parts is structurally crucial to the function of both proletarianized industrial production and the digital commons; it is not simply a shared superficial feature.

This structural parallel also suggests the potential of the digital commons to create a class for whom, to modify Gorz's treatment of Marx, consumption is determined in its contents by the functioning of society as a whole and which, consequently, has a vital, overriding interest in taking over the social process of consumption (and economies of transmission) in its totality. To some extent, this process is already undertaken in the very establishment of a digital commons, to the extent that the consumption of digital objects is co-determined with all other consumers. The digital commons does not create this situation of co-determination and this interest in autonomous social control of

[17] I will give a cursory explanation of why this is the case. In earlier methods of network file-sharing, a file would be transmitted in a linear fashion, from the first bit of the file to the last, from one uploader – a person with the file on their computer – to one downloader. In the BitTorrent protocol, each file is broken into pieces, and one uploader may begin transmission to multiple downloaders. Downloaders may receive these pieces in any order, as they will be recombined into the original digital object upon receipt of all the pieces. This means that downloaders can receive pieces from multiple 'peers' simultaneously, as soon as any of them have any of the pieces, not, as in previous protocols, only from a single peer who possess the complete file. This means that the more widely distributed each file is, the faster speeds of transmission become, the more efficiently each peer's bandwidth is used, and the more readily available each object becomes.

the social product, just as the Anthropocene does not mark the beginning of co-determination of and by the ecosphere. They are both deepenings of this co-determination which also provide a new method of making this co-determination visible.

There are a number of reasons this digital transformation of consumption, analogous to the proletarianization of production, is potentially important for the construction of an ecomodern project identity. As discussed in Chapter 2, consumption is a central activity in postmodern, individualized identity construction, taking over a role filled by craft in pre-industrial identity construction. Furthermore, capitalist modernization required "educating the worker/producer into becoming a worker/consumer" (Gorz 1989: 44). That is, for workers to be "functionally integrated" into a system of industrial production, "society must be sufficiently wealthy for the workers to be offered material compensation; and, secondly, the workers must agree to view their work as a means of procuring such compensation." The worker/consumer must be "conditioned and socialized in such a way that they take their salary and what it allows them to buy as their principal goal and their work as a means of achieving that goal" (Gorz 1989: 44). Moving past the model of the worker/consumer is one of the primary tasks of an ecomodern project identity. The use of freely and easily reproducible digital objects opens the possibility of following the deep ecological maxim: "Increase the sensitivity to and appreciation of what there is enough of for all", that "instructive slogan" which is "a way to maximize our ability to derive deep satisfaction from the goods of which there still are, or could be, enough" (Næss 2005: 202). File-sharing's focusing of consumption towards aesthetic experience qualifies it as a potential element of an "ideological change (…) of appreciating life quality (dwelling in situations of intrinsic value) rather than adhering to a high standard of living" (Næss 1989: 29).

The digital commons' place in a project of ecomodernity is where abundance and scarcity meet, a location where the fundamental norm of economic rationalization and growth, the primacy of property and ownership, and thus the Lockean liberal subject, can be contested and reformulated. If ownership is taken to be central to liberty, then economic growth, and the increase in the ownership of things, becomes necessary for the expansion of liberties. At the same time it is seen as necessary to alleviate material deprivation, since the alternative of redistribution curtails the right to ownership, and therefore is an unacceptable limitation on liberty, so conceived. A reconceptualization of liberty, which allows for a greater degree of redistribution by decoupling the expansion of liberty with the expansion of property, addresses the latter concern. The discovery and creation of forms of abundance outside, or parallel to, private property – in the commons – provides an alternative to the private-property based model of materially expansive liberty, by presenting a vision of an aesthetically and experientially expansive egalitarian liberty.

The digital commons, or its valorization and advancement, is not a project in and of itself, or at least can no longer be, due to its very success. "Every realization of a certain project – be it religious, ideological, or technical – is always also a negation of this project, a termination of this project as project" (Groys 2008: 7). The digital commons has already achieved the goal of allowing the mimetic flourishing and dispersal of cultural objects. One could advocate for the expansion of this function to a greater number of people, and the digital commons is always the site of a continual expansion of the range of cultural objects it includes – but its internal goals have basically been achieved. The defense of the digital commons against the interventions of states and corporations forms at first only another resistance identity. In order to take on the aspect of a project, the digital commons must become part of a "promised image", an ideological vision in which it can play a part. In a project of ecomodernity, it can serve as an experiential model for the relation between individuals and the social product, and as a mechanism for the

promotion of the "sheer plurality of cultural differences, regardless of (…) deepness" that Næss (2005: 263) posits may be essential to "development through deep cultural changes" and the contribution it can make to what Castells (2010: 185) calls "the critical matter for the influence of new ecological culture (…) its ability to weave threads of singular cultures into a human hypertext."

At the very least, file-sharing deserves to be included in the set of activities available to those attempting to construct greener societies, by means of new usages of currently existing infrastructure, alongside such behaviors as, for example, vegetarianism and other sustainability-conscious eating patterns (alternative uses of the existing agricultural and distributional infrastructure) and the use and advocacy of public transit (an alternative use of urban and transportation infrastructure). Perhaps the closest analogy would be to the groups existing in a number of cities in which members stop paying directly for public transport, and use the group's monthly fees in order to pay the resulting fines, at lower rates than either the fines or legitimate transit passes would be for the members as individuals. In this case as well, the contravention of existing laws is used to make a point about how public goods should be held in common and made available to individuals, and, in that it promotes public over private transport, a point about how technological infrastructure should be subject to collective decisions regarding its energy and material efficiency and overall environmental impact. File-sharing makes more far-reaching conclusions about the nature of public and private goods and of consumption. As of now, the discourse around file-sharing does not often make reference to matters of the environment. But wherever decentralized sharing systems are more efficient than centralized property-based systems, the critique based on environmental impact is just as available for use as it is in the promotion of public over private transport.

Morozov cautions that ‘the Internet’, to the extent it can be treated as a coherent object, should not be considered to be more than the sum of its parts, and that there is much more to be gained by analyzing each phenomenon discussed under the rubric of ‘the Internet’ according to its own characteristics, rather than in terms of what it shares with a supposed essential character of ‘the Internet’ (Morozov 2013b: 40). Yet this does not imply that there are *no* wholes that are greater than the sum of their parts. Such wholes are necessary for the construction of a project identity: without them, there is little reason for individuals to look past themselves and the near-at-hand. If the whole is equal to the sum, then each part may as well mind its own business. This may partially explain why activists mobilizing around issues that fall under the banner of ‘the Internet’ are so liable to treating it as such. They know, more or less consciously, that such wholes are required. If we are searching for wholes greater than the sum of their parts, we may find better, more fundamental wholes in the *demos*, the commons and the ecosphere. The network ecological Self is a model for the relationship between part and whole, node and network, and the nature of their constituting each other. It is this understanding of inter-constitution that is needed to counter a tendency toward authoritarian calls for the sacrifice of the good of the part to the good of the whole. It is this balance that is the core of the jointure suggested by the concept of ‘liberal democracy’, which recognizes both the necessary liberties of the individual and the essential surplus of the *demos*. Thus liberal democracy can, should, and perhaps must serve as the departure point for the formation of an ecological project identity and the construction of an ecological modernity. Its deficits, as currently instantiated, are in the parts it doesn’t see or consider, and in the connections between parts it ignores, which currently blind it to the greater surplus-wholes which contain it and make it possible.

None of this is to identify the file-sharer as a new class destined to be the vanguard of history – just as the naturalist, or the Næssian mountaineer, immersed in the autonomy of the non-human world, cannot serve as this

vanguard. The earlier theorization of the industrial proletariat as the custodians of the teleology of history was critically flawed, and as Gorz argues, contemporary informational capitalism precludes such a class arising now.

> The condition of post-Marxist Man is that the meaning Marx read in historical development remains for us the only meaning that development can have, yet we must pursue this meaning independently of the existence of a social class capable of realizing it. In other words, the only non-economic, post-economic goals capable of giving meaning and value to savings in time and labour are ones individuals must discover within themselves. No historical necessity imposes on us the reflexive revolution which the defining of these goals implies (Gorz 1989: 96).

What is open to both file-sharer and ecologist is the possibility of being co-participants in the construction of an ecomodern identity. If such an identity is created, "it will not be because this is the meaning of history but because we will have made history take on this meaning" (*Ibid.*).

File-sharing does not represent the inevitable future of the commons. Indeed, it may be superseded by the 'celestial jukebox' model, wherein culture is delivered by streaming services, carefully, if subtly, kept enclosed by copyright holders and service providers. The celestial jukebox faces its own problems, including service provides struggling to turn a profit, artists and companies unsatisfied with their share of income, and the prospect of future innovations by pirates. Yet whatever the fate of the free exchange of digital cultural objects in its current form, such exchange can continue to provide an image of more egalitarian relations in all the networks which constitute our selves, societies, and environments.

The digital commons needs ecosophy in order to remain part of a meaningful future-oriented project. Ecosophy, on the other hand, can use the digital commons to provide it with an example of "that for which there is enough for all" which transects contemporary human society and its economic structures,

in order to prevent ecology being confined to the space of a Nature which is defined as separate from society, and is rapidly shrinking.

A defense of the digital commons does not necessarily imply an endorsement of any particular plan for ICT-enabled 'direct democracy'. Recommendations of digital direct democracy, 'open government' and the like, whether "technoescapist" or "technorationalist" only further reify the postmodern trend of mandatory individualization, the interest-group model of politics and the consensual state's focus on the management of populations. The first two aspects are clearly on display when Mark Zuckerberg imagines political parties being replaced by individuals using ICT networks to temporarily coalesce around specific issues concerning them before quickly dispersing. When, for example, Beth Noveck states that "the digital environment offers new ways to engage in the public exchange of reason (…) with new tools, people can 'speak' through shared maps and diagrams rather than meetings" (Morozov 2013b: 176) we not only see an expression of the consensual state's management of the population according to its characteristics, but we glimpse the endpoint of this principle. The consideration of individuals as possessing *logos*, rational speech, is repealed, and they are interpreted as merely possessors of *phône.* Instead of being subjects who speak, citizens become objects read by technocrats. While Zuckerberg's vision of individuals networking based on common interests in specific issues may qualify as liberal and political (while Noveck's vision is quite illiberal), neither is democratic. Neither invokes or requires a *demos*, an identification of the populace as a body invoked through the principles of liberty and equality. Democracy does not require that each individual has the opportunity to directly contribute to every political decision, and may well not be improved by systems that aim to enable such input. Democracy is strengthened when democratic principles transect the public sphere, processes of political decision making, places of employment and all other social realms. The substance of political democracy is in the continual deliberation and contestation over the proper interpretation

and application of the principles of freedom and equality in each concrete situation. Ecological democracy expands political democracy in a non-anthropocentric direction, placing the *demos* in the larger context of the ecospheric network. The ecosophical principle of the right of each being to their particular modes of self-realization provides a guide as to how we may begin to undertake the effort of applying the democratic principles of freedom and equality to the non-human world.

Ecomodernity, or any other image of a green society, is not hidden in today's networks of information and communications technology, waiting to be found. But the broader network of relations which constitutes the ecosphere sits behind those networks, waiting for the connections between these lower and higher gestalts to be illuminated and mapped; for the effects of the network society on the ecological network to be traced, alongside the network society's dependencies on that network. To do so is also to insist on the ontological reality of those networks and their priority in relation to the network society. Through such activities, the means and the ends of the technical and economic networks may be fundamentally questioned. Over 20 years ago, Vilém Flusser asserted that in a civilization of such a scale and scope, everything must be "spoken of in images (…) city image, world image, human image" (Flusser 2005: 328). In the attempt to make the networked ecological Self a project identity, the elucidation and enumeration of social and ecological connections becomes both a central activity and a symbolic representation of the identity itself. It is by integrating Næss' concept of the ecological Self that the "world image" and "human image" can come to correspond, and thusly we can identify the self both in the individual node of the network and in the network as a whole, with the liberal citizen and with the *demos*, another networked whole greater than its parts. For many proponents of network technologies, the network is simply what brings together atomized individuals. Positioned against this is the claim that networks are the very substance of what constitutes the individual.

Our current technological networks are potential tools of an ecomodern project only to the extent that they foster activities which encourage more democratic and ecological relations, and can thus qualify for inclusion in a greener society, and serve as a model for the expansion of such relations. Despite its shortcomings, networked communication does expand the space of public deliberation, and it can be shaped to fill this role more ably in the future. The digital commons is a source of abundance in a world economy which simultaneously attempts to create artificial scarcities while underestimating or ignoring the real scarcities and limits of the non-human world. The abundance and equality of the digital commons are in many cases made illegal by an expanded regime of intellectual property law. Its defense and advocacy is thus a point of equivalency in the construction of a project identity, in fighting against damage done by too-expansive property rights to democracy and the non-human world. Meanwhile, the construction of such a commons, available to participation and experience, is a model and reminder of the importance of the commonly-held, in both democratic society and the ecosphere.

We can see the beginnings of a project identity under construction in the organized advocacy for file-sharing and copyright reform found in parts of Europe. The incompleteness and ambiguity of that project bring into focus what the notion of a network ecological Self brings to such an attempted construction. Advocates of file-sharing depict the movement existing around the issue as heterogeneous. As quoted in Lindgren and Linde (2012: 155), a book published by the Swedish organization The Bureau of Piracy describes the views existing within the movement as comprising "both the hacker's, the artist's, the philosopher's and the ordinary file sharer's ... From Public Enemy to Friedrich Hayek, from the history of video games to Michel Foucault, from computer networks to pharmaceutical manufacturers." In discussing the Bureau of Piracy's emphasis on individual autonomy and freedom of choice, Lindgren and Linde describe the following statement from a Bureau

representative as containing "a rather neo-liberal idea that what is good for the individual will also be good for others":

> It is a kind of egoism that has to include other people, sort of ... For me to be satisfied, other people around me need to be satisfied too. So, I guess that's the basis of the file sharing movement, maybe ...Not built on an idea that man has to be in solidarity with others to be good. And like, 'you ought to be like this, for moral reasons, and therefore we should'. If we show solidarity towards one another, then it gets better for everyone, kind of. A very primal view of solidarity, you could say." (Lindgren and Linde 2012: 159)

In what Lindgren and Linde see as "rather neo-liberal" we can also identify a budding ecosophical impulse. The notion of "primal solidarity" draws close to de Waal's emphasis on pre-cognitive empathy, while the broader idea of solidarity following naturally from action rather than from admonitions that "you ought to be like this, for moral reasons" parallels Næss' priority of the Kantian beautiful over the good, and of identification before ethics. The statement "if we show solidarity towards one another, then it gets better for everyone" is much closer to deep ecology and Self-realization than the neoliberal notion of collective gains arising from the aggregate pursuit of rational self-interest. Here, as with Næss, self-interest must come to be identified with solidarity. Self-interest alone cannot serve as an adequate replacement for solidarity, and solidarity benefits from a felt convergence with self-interest.

While the political groups explicitly animated by advocacy of a free digital commons, chiefly the Pirate parties, may currently suffer from many structural difficulties and multiple deficits of maturity, their attraction to a guaranteed minimum income (Zeh 2012, The Economist 2013), at least, suggests some intuitive grasp of the essential connection that Gorz (Van Parijs 2009) and Van der Veen and Van Parijs (1987) make between growth, consumption, and equality. A guaranteed minimum income can be seen as an adequate application of the principles of freedom and equality to the economic sphere,

in that, and only if, it allows all individuals equal access to physical necessities, and with that access, the freedom to choose their own economic activity beyond the coercive requirement to accept any employment available in order to meet basic needs. Such a democratization of the economy and the amelioration of modern economic rationalization's internal contradictions require a common external principle which can provide an alternative to continual and unlimited growth – and this an ecological view provides.

There are a number of other examples of contemporary organizations, movements and groupings that use a de-centered, network structure and ICTs to advocate for democratization, the digital commons, the defense of ecosystems and the ecologization of societies, such as Occupy Wall Street, the *Indignados*, Anonymous and 350.org, the last of those focused on immediate action to halt anthropogenic climate change. None of them alone provides a complete model for a 21st or 22nd century project identity, and it remains unclear the extent to which they will accomplish their short and long term goals, or be thwarted by centers of economic and state power, an inability to foster sufficient popular support, or situational changes which render their premises irrelevant or outdated. Each effort faces different external conditions and internal dynamics, and it would be difficult at this point to determine whether network structures will help or hinder the accomplishment of their respective goals. A preliminary attempt to make such determinations would require a sociological study of each separately, and even one such study was not within the scope of this thesis. The link I hope to have begun to make here is not a specific connection between any single example of a contemporary group and greener societies of the future. Rather, it is the connection between a network-praxeomorphic reconsideration of how the self is constituted and future blueprints for how individuals view both action within society and the type of actions (and their justifications) that state institutions may take in the interest of larger social and ecological wholes. Throughout this project I have aspired not simply to make the case that democracy, ecology and network

technology are compatible, but to argue that democracy, ecologization and network technology reinforce, and perhaps even require one another for each's continued survival into the future.

The matter of conclusions brings us back to Næss, and when he says

> There is nothing in "ecosophy," or in any other, more fragmentary work, that I would regard as established. On the contrary, I feel that all I have published has been "on the way." Before proofreading is done, I have normally fathered heaps of notes for improvements, modifications, and elaborations. When I leave a subject and proceed to something new, it is always because I am impelled to do so by the movement of my own thought and actions, not because what I leave seems well enough worked out and accomplished. With greater talents, I would have produced better-rounded-off works, but basically I think that human beings are something essentially on the way, destination unknown, and that they are justified in expressing themselves, talented or not, as they move along (Næss 2005: 316).

The exploration in the preceding pages has certainly been 'on the way'. The network ecological Self is as much a framework for image-making as a concrete image. The commons is a much a concept to be instantiated as a territory to be defended. And the project of constructing a greener future consists as much in continually discovering how to see things in an ecological light as it is does in particular ecological institutions.

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